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City of Birmingham.

REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE YEAR

1919.

BIRMINGHAM :

HUDSON AND SON, PRINTERS, EDMUND STREET AND LIVERY STREET.

1920.



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TABLE OF CONTENTS.

	PAGE.
Introduction ...	6
Population ...	7
Marriages ...	8
Births ...	8
Illegitimacy ...	8
Deaths ...	8
Infectious Diseases ...	12
Enteric Fever... ...	12
Smallpox ...	13
Vaccination ...	13
Measles and German Measles ...	13
Scarlet Fever... ...	14
Whooping Cough ...	15
Diphtheria and Croup ...	15
Influenza ...	15
Diarrhoea and Enteritis ...	17
Tuberculosis ...	17
Report on Treatment of Tuberculosis ...	23
Yardley Road Sanatorium ...	31
West Heath Hospital ...	36
Salterley Grange Sanatorium ...	38
Tuberculosis and Milk Supply ...	43
Infant Mortality ...	45
Illegitimate Deaths ...	48
Stillbirths ...	50
Maternity and Child Welfare Centres ...	52
Puerperal Fever ...	54
Midwives Acts ...	55
Ophthalmia Neonatorum ...	56
Venereal Diseases ...	56
Cancer ...	59
Cerebro-Spinal Fever ...	61
Acute Poliomyelitis ...	61
Encephalitis Lethargica ...	62
Bronchitis and Pneumonia ...	62
Contagious Diseases of Animals ...	63
City Hospitals ...	64
Disinfection ...	64
General Sanitary Work ...	65
Common Lodging Houses ...	66
Houses Sub-Let in Lodgings ...	67
Canal Boats ...	67
The Milk Supply ...	69
Milkshops and Dairies ...	69
Inspection of Meat, Fish, and Fruit ...	69
Factories and Workshops ...	70
Sanitary Conditions in Kitchens of Hotels, Restaurants, and Cafés ...	72
Health Visitors' Work ...	76
Tables :—	
I.—Births and Deaths in 1919 and previous years ...	77
II.—Deaths from Various Causes at Different Age Periods, 1919 ...	78
III.—Births and Deaths from Different Causes in Wards, 1919 ...	82
IV.—Infant Deaths from Different Causes in Wards, 1919 ...	83
V.—Cases of Infectious Disease Notified in each Week of the Year 1919 ...	84
VI.—Cases of Infectious Disease Classified according to Ages... ...	85
VII.—Cases of Infectious Disease Classified according to Wards ...	86
VIII.—Meteorological Observations in 1919 ...	87
IX.—Meteorology and Mortality in each Week, 1919 ...	88

PUBLIC HEALTH DEPARTMENT,

THE COUNCIL HOUSE,

BIRMINGHAM,

August, 1920.

TO THE CHAIRMAN AND MEMBERS OF THE PUBLIC HEALTH COMMITTEE.

LADIES AND GENTLEMEN,

I submit herewith the annual report on the health of Birmingham for the year ending January 3rd, 1920.

Comparatively this city is a healthy one, when it is remembered that it contains one of the largest industrial populations in the empire.

The Death-rate for 1919 was	... ...	13·0 per 1,000.
The Infant Mortality Rate was	... ...	84 " "
The Phthisis Mortality Rate was	... ...	1·10 " "
The Non-pulmonary Tuberculosis Rate was	... ...	0·18 " "
The new cases of Enteric Fever were equal to a rate of	0·04 " "	

Much remains to be done to greatly improve the health and social conditions of the people. At the risk of repeating oneself *ad nauseam* on a subject that has given real concern to the members of the City Council, I would say that the condition which overshadows everything else is the Housing question as we know it here. I cannot believe that the mass of the people realise the badness of the conditions under which many families of young children are living because of the house shortage. Until more houses are forthcoming we are almost helpless to remedy these conditions. There are a large number of houses where two or three families are living in the accommodation provided for one family. There does not at present seem to be a prospect of making up the deficiency for many years. If 2,000 houses are built per year, it will not do more than meet the ordinary increase in population. Something more, therefore, is needed than 2,000 new houses each year.

In the meantime the old houses are getting into an increasingly defective condition. In some cases we are concerned to prevent parts of old dwellings from collapsing. In the ordinary course these houses would have been demolished at the rate of from 300 to 500 per annum, as they are old and dilapidated and the leases are running out.

For the central areas something more than mere house-building is required. It is most important that these districts should be subject to a modified form of town-planning, so that in time many of them in which the conditions are at present degrading may be brought to a standard which may be regarded as containing the minimum requirements for reasonably healthy existence.

The arrears of work on housing is so great that almost everything else in the way of city expenditure should give place to it.

I am,

Your obedient servant,

JOHN ROBERTSON,

Medical Officer of Health.

City of Birmingham.

REPORT OF THE MEDICAL OFFICER OF HEALTH

For the year 1919.

POPULATION.

There is a very considerable difficulty in arriving at an estimate of the number of people living in Birmingham during 1919. It is eight years since a census was taken, and during these eight years a large alteration in the distribution of the population has been occasioned as a result of the great war.

If the same rate of increase had continued as was actually recorded between the last two census enumerations, then the present population of the city would have been 913,631 on June 30th, 1919. For the purposes of the report the population has been assumed to be 910,000. The Registrar-General has suggested that we should use a population of 897,516 for the calculation of birth-rates and of 861,585 for death-rate purposes.

Without a correct estimate of the population it is impossible to say whether the people are getting healthier or not. Further, there are a great many other important conditions which are largely guided by correct population statistics, *e.g.*, at the present time one of the most important of these is the Housing question.

Actual increase or decrease of population.	Births.	Deaths.	Natural increase.	Net increase or decrease due to migrations.
1901 + 7,689	23,866	13,290	10,576	- 2,887
1902 + 7,768	24,246	12,650	11,596	- 3,828
1903 + 7,847	23,956	12,224	11,732	- 3,885
1904 + 7,928	24,260	13,882	10,378	- 2,450
1905 + 8,008	22,939	11,948	10,991	- 2,983
1906 + 8,091	23,484	12,737	10,747	- 2,656
1907 + 8,172	23,233	12,356	10,877	- 2,705
1908 + 8,257	23,986	12,596	11,390	- 3,133
1909 + 8,340	22,555	12,398	10,157	- 1,817
1910 + 8,426	22,288	11,001	11,287	- 2,861
1911 + 8,511	21,975	12,623	9,352	- 841
1912 + 8,610	22,168	12,005	10,163	- 1,553
1913 + 8,697	23,812	12,962	10,850	- 2,153
1914 +22,890	23,207	13,026	10,181	+12,709
1915 + 8,700	21,187	12,816	8,371	+ 329
1916 + 4,444	20,618	12,081	8,537	- 4,093
1917 + 4,322	17,706	11,274	6,432	- 2,110
1918 -30,000	16,840	13,175	3,665	-33,665
1919 +40,000	19,335	12,000	7,335	+32,665

MARRIAGES.

There were 9,115 couples married during 1919. The figures for the previous seven years were as follows :—

Year.	Couples married.	Rate.
1912	6,788	16·0
1913	7,245	16·9
1914	7,488	17·0
1915	9,975	22·4
1916	8,047	18·0
1917	7,428	16·6
1918	7,770	17·9
1919	9,115	20·0

BIRTHS.

There were 19,335 babies born during 1919. This is equal to a birth-rate of 20·9.

For previous years the birth-rate is set out on Chart No. 1. The main feature is that in Birmingham fifty years ago two babies were born for every one born during each of the past three years.

The improvement in the death-rate has prevented this decline in the birth-rate from reducing the population seriously. If the birth-rate decline continues, there must be sooner or later a declining English population.

The loss to Birmingham as a result of the decline in the birth-rate during the war amounts to approximately 20,000 births.

Of the babies born since 1912 the sex was as follows :—

	Males.	Females.	Excess of males over females.
1912	11,300	10,868	432
1913	12,125	11,687	438
1914	11,706	11,501	205
1915	10,765	10,422	343
1916	10,542	10,076	466
1917	8,983	8,723	260
1918	8,576	8,264	312
1919	9,883	9,452	431

ILLEGITIMACY.

There were 858 illegitimate babies born, as compared with 858 in 1918, 834 in 1917, 717 in 1916, and 702 in 1915.

This represents 4·4 per cent. of all births.

It would be unwise to assert that there is any real increase in illegitimacy until the next census gives us the actual number of unmarried and widowed women in the population between the ages of 15 and 45 years.

NOTIFICATION OF BIRTHS ACT.

During the year there were 19,335 live births belonging to Birmingham, and of these 18,679 were notified—that is, 97%.

Of the total births 87% were visited by a Health Visitor.

There were, in addition to the live births, 744 still-births reported ; in 1918 there were 590 still-births.

DEATHS.

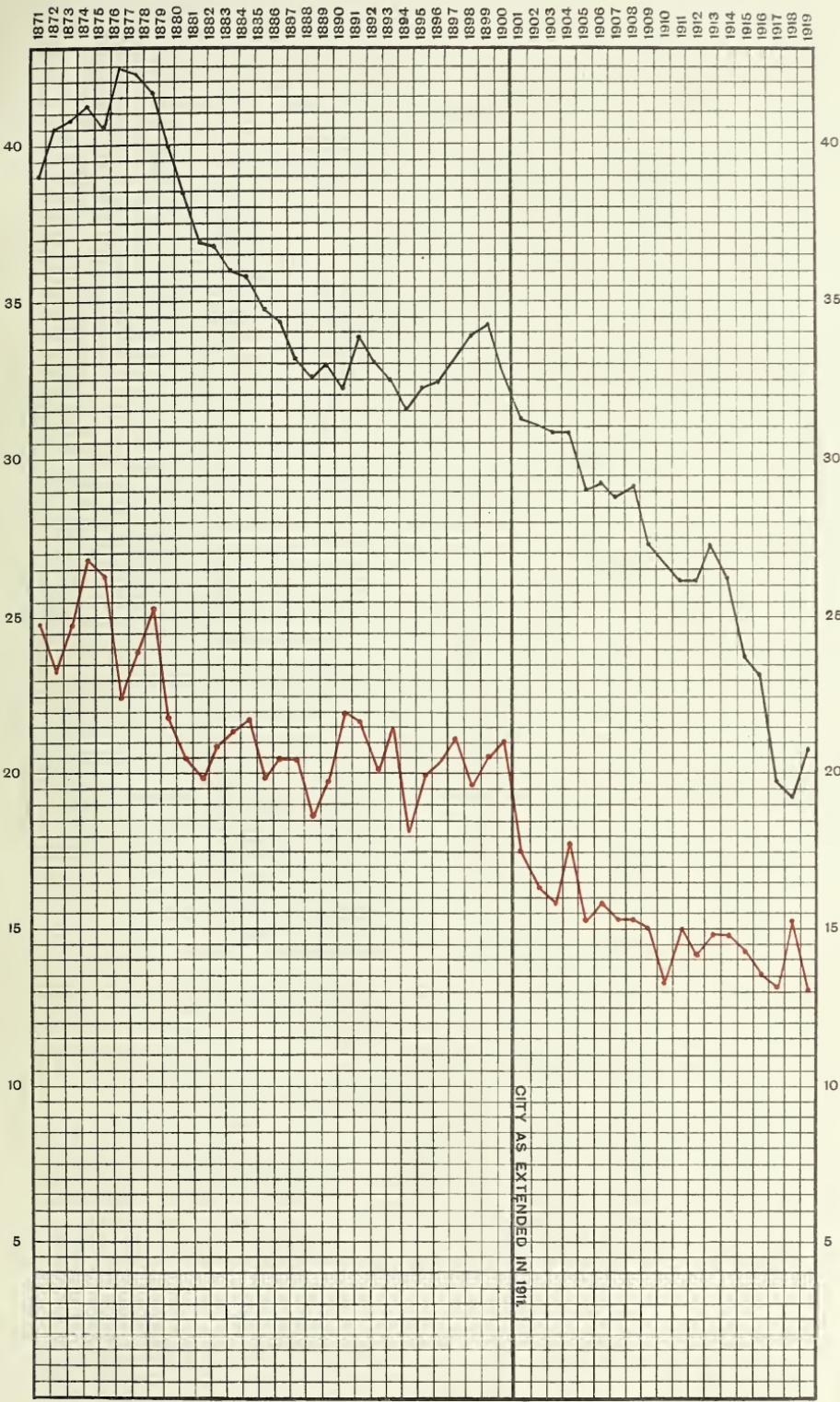
There were 12,000 deaths of civilians belonging to Birmingham recorded during 1919. In 1918 there were 13,175 deaths.

The death-rate for 1919 was therefore 13·0 per thousand of the population.

The annual death-rate for a long series of years is shown on Chart No. 1.

CHART NO. 1.

BIRTH-RATE AND DEATH-RATE PER 1,000.



BIRTH-RATE
DEATH-RATE

DEATH-RATES PER 1,000 IN BIRMINGHAM, 1871 TO 1919.

		Birmingham.	England and Wales.
1871-1875 (Old City)	...	25·2	22·0
1876-1880	"	22·8	20·8
1881-1885	"	20·7	19·4
1886-1890	"	20·2	18·9
1891-1895	"	20·3	18·7
1896-1900	"	20·5	17·7
1901-1905 (Present Area)	...	16·5	16·0
1906-1910	"	15·0	14·7
1911-1915	"	14·6	14·3
1916	"	13·5	14·4
1917	"	12·6	14·4
1918	"	15·2	17·6
1919	"	13·0	13·8

COMPARATIVE DEATH-RATES IN EIGHT LARGEST TOWNS.

(From Registrar-General's Figures.)

		16·4 per 1,000
Glasgow	...	13·6 "
Birmingham	...	16·8 "
Liverpool	...	14·0 "
Manchester	...	13·7 "
Sheffield	...	16·0 "
Leeds	...	13·1 "
Bristol	...	16·8 "
Edinburgh	...	

The next table gives the figures of population, birth-rates and death-rates in wards :—

BIRTH-RATES AND DEATH-RATES, 1919.

	Ward.	Approximate Population.	Birth-Rate.	Death-Rate.
Central Wards ...	St. Paul's	29,200	29·1	16·8
	St. Mary's	32,800	28·6	17·9
	Duddeston and Nechells	42,300	29·5	15·8
	St. Bartholomew's	39,700	29·0	16·5
	St. Martin's and Deritend	42,600	29·1	18·6
	Market Hall	18,700	21·5	14·0
Middle Ring ...	Ladywood	30,800	26·6	16·1
	Lozells	35,100	18·5	13·1
	Aston	42,100	24·4	13·4
	Washwood Heath	36,400	21·2	11·8
	Saltley	28,600	19·3	10·7
	Small Heath	29,900	17·7	11·1
	Sparkbrook	36,400	19·8	13·1
	Balsall Heath	41,100	18·5	13·3
	Edgbaston	35,400	15·0	12·8
	Rotton Park	41,300	22·0	13·2
All Saints'		44,100	23·3	12·5

	Ward.		Approximate Population.	Birth-rate.	Death-rate.
Outer Ring	Soho	...	28,100	17·3	11·1
	Sandwell	...	19,600	14·7	10·6
	Handsworth	...	27,500	16·0	11·4
	Erdington North	...	17,400	17·2	11·1
	Erdington South	...	18,700	19·2	10·7
	Yardley	...	17,000	18·1	10·3
	Acock's Green	...	28,700	18·2	9·5
	Sparkhill	...	24,200	14·5	10·0
	Moseley and King's Heath	...	27,300	14·8	11·6
	Selly Oak	...	26,800	21·1	11·1
	King's Norton	...	21,800	15·0	9·3
	Northfield	...	9,300	17·2	8·0
	Harborne	...	16,300	15·3	11·3

It will be noted that the death-rate in the Central Wards is uniformly much higher than that in the suburban wards.

To indicate where progress has been made in the reduction of the death-rate, the next table has been prepared, showing the mortality in each ward for three years, 1917 to 1919. These figures are set out alongside the rates for the years 1912-1916 (five years). It is satisfactory to note that in those areas where mortality is usually highest it is shown that substantial reduction is occurring.

	Ward.		Mean Death-Rate, 1912-1916.	Death-Rate, 1917-1919.	Increase or Decrease.
Central Wards	St. Paul's	...	20·5	18·3	-2·2
	St. Mary's	...	24·5	20·1	-4·4
	Duddeston and Nechells	...	20·6	17·6	-3·0
	St. Bartholomew's	...	20·6	18·0	-2·6
	St. Martin's and Deritend	...	20·6	18·7	-1·9
	Market Hall	...	17·8	16·6	-1·2
Middle Ring	Ladywood	...	17·1	16·6	-0·5
	Lozells	...	13·4	13·8	+0·4
	Aston	...	15·2	14·1	-1·1
	Washwood Heath	...	12·7	11·3	-1·4
	Saltley	...	12·2	11·7	-0·5
	Small Heath	...	11·5	12·4	+0·9
	Sparkbrook	...	12·8	13·1	+0·3
	Balsall Heath	...	12·7	13·7	+1·0
	Edgbaston	...	11·8	12·7	+0·9
	Rotton Park	...	14·9	13·9	-1·0
Outer Ring	All Saints'	...	14·6	13·6	-1·0
	Soho	...	12·6	11·7	-0·9
	Sandwell	...	10·0	10·4	+0·4
	Handsworth	...	10·4	11·1	+0·7
	Erdington North	...	11·0	10·0	-1·0
	Erdington South	...	9·3	10·4	+1·1
	Yardley	...	10·5	10·1	-0·4
	Acock's Green	...	11·4	10·9	-0·5
	Sparkhill	...	9·6	10·3	+0·7
	Moseley and King's Heath	...	9·7	11·1	+1·4
	Selly Oak	...	11·4	10·5	-0·9
	King's Norton	...	9·7	8·9	-0·8
Outer Ring	Northfield	...	10·2	9·0	-1·2
	Harborne	...	10·4	11·3	+0·9
Whole City		...	14·3	13·6	-0·7

CHIEF CAUSES OF DEATH.

Deaths from	1914.	1915.	1916.	1917.	1918.	Average,	Increase or Decrease.	
						1914-1918.		
Measles	...	310	420	101	333	71	247	189 - 58
Whooping Cough	...	309	121	378	131	277	243	60 - 183
Diphtheria	...	260	135	116	112	160	157	126 - 31
Influenza	...	142	146	146	98	2,172	541	1,062 + 521
Pulmonary Tuberculosis	...	1,059	1,141	1,107	1,169	1,171	1,129	1,019 - 110
Other Tuberculosis	...	234	236	217	236	214	227	169 - 58
Cancer	...	773	885	897	912	883	870	935 + 65
Cerebral Hæmorrhage	...	519	559	467	485	455	497	473 - 24
Convulsions (under 5)	...	168	154	165	139	107	147	96 - 51
Organic Diseases of Heart	...	1,201	1,256	1,290	1,298	1,183	1,246	1,187 - 59
Arterio Sclerosis	...	110	135	156	152	137	138	203 + 65
Cerebral Embolism and Thrombosis	...	72	101	124	121	127	109	98 - 11
Bronchitis	...	1,109	1,219	1,148	910	1,059	1,089	1,285 + 196
Pneumonia	...	1,090	1,140	1,006	846	1,270	1,070	1,013 - 57
Diarrhoea and Enteritis	...	767	684	489	366	445	550	260 - 290
Nephritis and Bright's Disease	...	333	326	307	290	251	301	230 - 71
Premature Birth	...	492	401	404	389	379	413	437 + 24
Debility, etc.	...	446	359	263	258	182	302	208 - 94
Old Age	...	592	637	629	611	451	584	628 + 44
Suicide	...	83	47	46	55	60	58	98 + 40
Accident	...	382	402	358	340	300	356	314 - 42

The last column in the above table indicates the damage done by influenza. It also indicates in a general way that the mortality figures for Birmingham have not been largely affected by the war.

RATES OF MORTALITY AT AGES, 1919.

The rate of mortality at various age periods during 1919 was as follows:—

		Approximate Population.	Deaths.	Approximate Death-Rate per 1,000.
Under 1 year	...	18,000	1,630	89·1
1 and under 2	...	15,160	464	30·1
2	3	15,260	266	17·1
3	4	17,530	151	8·5
4	5	17,460	127	7·2
5	10	97,000	328	3·3
10	15	90,000	198	2·2
15	20	87,000	229	2·6
20	25	86,500	258	2·9
25	35	166,800	784	4·6
35	45	128,330	987	7·6
45	55	85,900	1,322	15·1
55	65	50,020	1,583	31·1
65 and upwards	...	35,040	3,673	103·1

INFANT MORTALITY.

(See page 45.)

INFECTIOUS DISEASES.

The deaths during 1919 from some of the chief infectious diseases were as follows :—

DISEASE.		Deaths in 1919.	Average 1909-18.	Above or below the average.
Enteric Fever	9	19
Smallpox	—	—
Measles	189	332
Scarlet Fever	45	94
Whooping Cough	60	232
Diphtheria	126	144
Diarrhoea and Enteritis	260	653
Pulmonary Tuberculosis	1,019	1,064
Other Forms of Tuberculosis	169	243
Influenza	1,062	324
				+ 738

The prevalence of the notifiable diseases is shown in the next table :—

DISEASE.		Cases in 1919.	Average 1909-18.	Above or below the average.
Enteric Fever	...	...	34	81
Smallpox	...	...	—	—
Measles	...	...	15,158	Only recently notifiable.
German Measles	...	...	565	Only recently notifiable.
Scarlet Fever	...	...	2,821	4,038
Diphtheria	...	...	970	1,043
Erysipelas	...	...	351	686
Puerperal Fever	...	...	105	98
Ophthalmia Neonatorum	...	...	282	Only recently notifiable.
Pulmonary Tuberculosis	...	...	2,704	“
Other forms of Tuberculosis	...	...	412	“
Acute Primary or Influenzal Pneumonia	...	1,739	“	“
Cerebro-Spinal Fever	...	...	14	“
Acute Poliomyelitis	...	...	14	“
Encephalitis Lethargica	...	...	11	“
Malaria	...	...	464	“
Dysentery	...	...	38	“
Trench Fever	...	...	3	“

In addition to the above the following cases were reported by the elementary school teachers :—

	1919.	1918.	1917.	1916.	1915.	1914.
Whooping Cough...	...	1,218	4,647	2,531	5,783	2,349
Chicken Pox	...	2,723	2,640	3,266	2,386	4,829
Mumps	828	6,026	1,856	4,459

ENTERIC FEVER.

There were 34 cases of this disease reported during 1919, of whom 9 died, giving a mortality rate of 26%.

The corresponding figures for the last five years have been as follows :—

Year.	Cases reported.	Deaths.	Mortality rate per cent.
1915	31	7	23
1916	19	5	26
1917	22	7	32
1918	23	5	22
1919	34	9	26

Of the 34 cases reported during last year blood tests were made in 27 instances, but no confirmation of the diagnosis was obtained in the other 7 cases.

The results of the examinations were :—

Widal Reaction positive to both Bac. Typhosus and Bac. Paratyphoid B. in ...	6 cases.
Widal Reaction positive to Bac. Typhosus only ...	13 "
Widal Reaction positive to Bac. Paratyphoid B. only ...	— "
Widal Reaction negative to both Bac. Typhosus and Bac. Paratyphoid B. in...	8 "
Blood not examined in ...	7 "
	—
	34 "
	—

SMALLPOX.

There were no cases of Smallpox in Birmingham during 1919.

In England and Wales there were 294 cases, of which 32 were on ships in 10 different ports. The other 262 cases affected no less than 61 different sanitary districts.

The accommodation for dealing with Smallpox in Birmingham is at present inadequate for a City so large and for a disease so important and so easily prevented.

VACCINATION.

The following statement shows the vaccinal state of the infants born during the year ending June 30th, 1919 :—

Births returned ...	... 16,125
Conscientious objections	... 2,896, or 17·9% of total.
Died unvaccinated	... 1,106
Successfully vaccinated	... 9,686, or 64·5% of survivors.
Insusceptible	... 48, or 0·3%
Postponed by medical certificate	... 416, or 2·8%
Removed to other districts	... 323, or 2·2%
Lost sight of	... 674, or 4·5%
Still under notice	... 976, or 6·5%

MEASLES AND GERMAN MEASLES.

There were 15,158 cases of Measles notified and 565 cases of German Measles.

Since compulsory notification came into operation there have been on an average 11,680 cases notified per annum.

There is ground for believing that a good many cases escape notification, so that the statistical record derived from compulsory notification is not of much value so far as the incidence of the disease is concerned.

The following table gives information as to the notification of Measles since 1901 :—

	CASES.		DEATHS.		Death-Rate (Measles only).
	Measles.	German Measles.	Measles.	German Measles.	
1901	?	?	372	?	.49
1902	?	?	237	?	.31
1903	?	?	245	?	.32
1904	?	?	243	?	.31
1905	?	?	300	?	.38
1906	?	?	275	?	.34
1907	?	?	109	?	.51
1908	?	?	70	?	.08
1909	?	?	676	?	.82
1910	?	?	42	?	.05
1911	?	?	395	?	.47
1912	7,693*	1,088*	571	3	.67
1913	3,661*	85*	398	1	.46
1914	4,612*	61*	310	—	.35
1915	8,144*	680*	420	—	.47
1916	10,635	4,996	101	1	.11
1917	15,516	472	333	4	.37
1918	5,413	300	71	1	.08
1919	15,158	565	189	—	.20

* Partial notification only through schools.

DISTRIBUTION OF MEASLES IN BIRMINGHAM.

	New Cases of Measles per 1,000 persons.	Death-rate.			1919.	1918.	1917.
		1919.	1918.	1917.			
Central Wards ...	18·3	7·8	18·6	0·44	0·14	0·71	
Middle Ring ...	15·8	7·4	18·9	0·16	0·09	0·39	
Outer Ring ...	16·4	3·9	20·9	0·07	0·03	0·14	

The case-rate may not be quite accurate, but the death-rate is. It indicates that Measles is 5 or 6 times as fatal among the poor as it is among the average artisan class.

FATALITY RATE PER 100 CASES.

	1919.	1918.	1917.
Central Wards ...	2·4	1·8	3·8
Middle Ring ...	1·2	1·2	2·1
Outer Ring ...	0·4	0·8	0·7

AGE INCIDENCE OF ATTACK AND DEATH.

Age.	Cases.	Rate per 1,000 of Population.	Deaths.	Rate per 100 Cases.
0—1 ...	482	26·3	31	6·4
1—2 ...	1,096	71·2	62	5·7
2—3 ...	1,327	85·6	41	3·1
3—4 ...	1,467	82·3	16	1·1
4—5 ...	1,672	94·2	14	.8
5—10 ...	8,292	84·1	23	.3
10—15 ...	512	5·6	1	.2
15 upwards ...	310	0·5	1	.3

PERSONS REPORTING.

	Measles.	German Measles.
Notified by Medical Practitioners ...	6,923	465
Reported by School Teachers ...	3,679	48
Reported by Parents ...	2,728	34
Ascertained by Health Visitors ...	1,828	18
	<hr/>	<hr/>
	15,158	565
	<hr/>	<hr/>

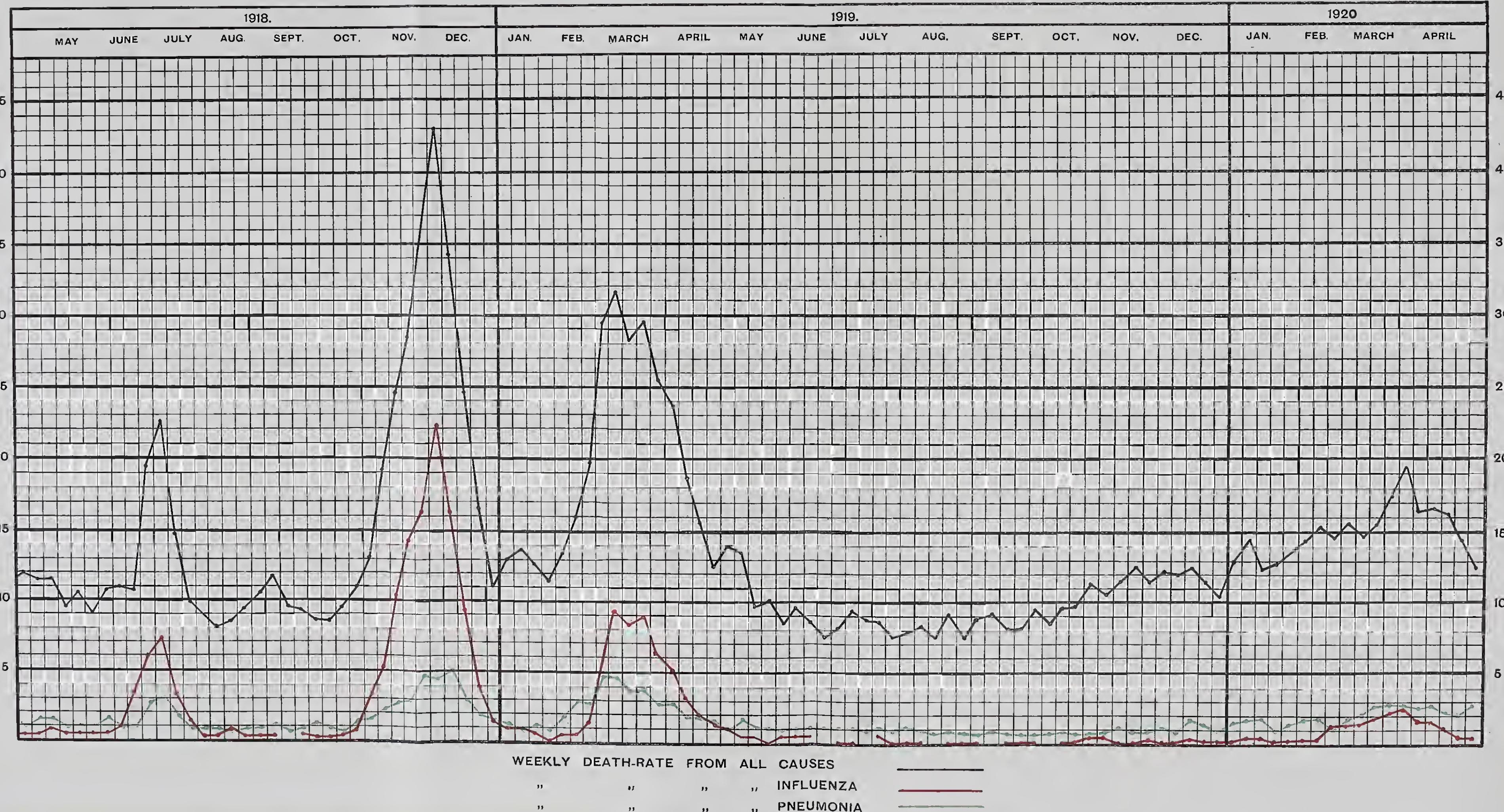
The arrangements made some years ago whereby the services of the district and other nurses in Birmingham were available in cases of Measles continues to be very satisfactory. It is to the better nursing that the considerable drop in the death-rate is largely due. There is still far too little use made of the facilities offered. Of the 33 cases of death from Measles in St. Mary's and St. Paul's wards, only 6 cases made use of the Nursing facilities offered.

The cost for 1919 of the nurses' help was £41 3s. 6d.

SCARLET FEVER.

The incidence of this disease remains low. There were 2,821 new cases, with 45 deaths.

CHART NO. 2.



In previous years the cases were as follows :—

Year.	Cases.	Year.	Cases.
1908	...	1914	...
1909	...	1915	...
1910	...	1916	...
1911	...	1917	...
1912	...	1918	...
1913	...	1919	...
	4,004		6,764
	4,797		2,978
	4,324		1,796
	3,587		1,143
	5,505		1,035
	8,447		2,821

Of the 2,821 cases 2,158 were removed to a Fever Hospital, *i.e.*, 77%.

Among the 2,158 cases removed to Hospital there were 75 cases which were followed on their return home by another case in the same house, that is, 3·5%, while of the 663 cases nursed "at home" there was 1 similar instance.

WHOOPING COUGH.

There were 1,218 cases of this disease reported, compared with 4,647 in 1918, 2,531 in 1917, and 5,783 in 1916.

The deaths numbered 60.

The ages at death for the four years 1916, 1917, 1918 and 1919 were as follows :—

	1916.	1917.	1918.	1919.
Under 1 year	162	41	95
Between 1 and 2 years	...	130	47	98
Between 2 and 3 years	...	47	22	45
Between 3 and 4 years	...	21	8	19
Between 4 and 5 years	...	8	7	9
Over 5 years	10	6	11
				3

DIPHTHERIA AND CROUP.

There were 970 cases notified to the Health Department, with 126 deaths. The fatality rate was 13%, as against 18% in the previous year and 14% in 1917. The fatality from this disease appears to be excessive and is due to the long time which elapses between the commencement of the disease and the application of effective treatment.

INFLUENZA.

There were 1,062 deaths from Influenza during 1919, and these were accompanied by a marked increase in the mortality from Bronchitis and Pneumonia.

Chart No. 2 shows the course of the Influenza epidemics since June, 1918, when the first of the recent outbreaks occurred. We have now had four outbreaks.

- 1st. In June and July, 1918. A very extensive epidemic, but with mortality not so high as in subsequent outbreaks. (Approximately 400 deaths.)
- 2nd. In November and December, 1918—not so extensive, but much more severe. (About 2,000 deaths.)
- 3rd. In February and March, 1919—very severe, but less extensive than No. 2. (1,400 deaths.)
- 4th. In March and April, 1920—a much slighter outbreak. (About 400 deaths.)

It may be said therefore that at least 1,400 deaths were due to the Influenza epidemic in 1919, making with the two preceding outbreaks in 1918 and the subsequent one in 1920 a total number of 4,200 deaths due to outbreaks of this disease.

The distribution as shown in the following table was somewhat different from that in 1918.

DEATH-RATES FROM INFLUENZA AND PNEUMONIA.

			Influenza. Death-rates.	Average.	Pneumonia. Death-rates.	Avera
Central Wards	St. Paul's	...	...	1·7	1·7	
	St. Mary's	...	...	1·6	1·4	2·2
	Duddeston and Nечells	...	1·3	in 1919.	1·7	in 1919.
	St Bartholomew's	...	1·3		1·7	
	St Martin's and Deritend	...	1·4	2·5	1·7	2·6
	Market Hall	...	0·9	in 1918.	1·4	in 1918.
Middle Ring	Lodzells	...	...	0·9	1·3	
	Aston	...	...	1·3	1·4	
	Washwood Heath	...	...	0·6	1·2	1·1
	Saltley	...	...	0·8	in 1919.	1·1
	Small Heath	...	...	1·1	0·6	
	Sparkbrook	...	...	1·2	2·7	1·3
	Balsall Heath	...	...	1·3	in 1918.	0·7
	Edgbaston	...	...	1·4	1·3	
	Rotton Park	...	...	1·1	1·3	
	All Saints'	...	...	1·9	1·1	
Outer Ring	Soho	...	...	0·8	0·7	
	Sandwell	...	...	1·2	0·3	
	Handsworth	...	...	0·9	0·6	
	Erdington North	...	...	0·6	0·8	
	Erdington South	...	...	0·5	0·9	0·6
	Yardley	...	...	0·7	in 1919.	0·4
	Acock's Green	...	...	1·1	0·7	
	Sparkhill	...	...	1·1	2·2	0·8
	Moseley and King's Heath	...	...	1·3	in 1918.	0·4
	Selly Oak	...	...	1·0	0·7	
	King's Norton	...	...	0·6	0·3	
	Northfield	...	...	0·8	0·6	
	Harborne	...	...	1·0	0·8	

The fatality rate was nearly uniform over the city in 1918, while in 1919 it was somewhat higher in the poor class wards.

SEX AND AGE OF PERSONS WHO DIED OF INFLUENZA DURING 1918 AND 1919.

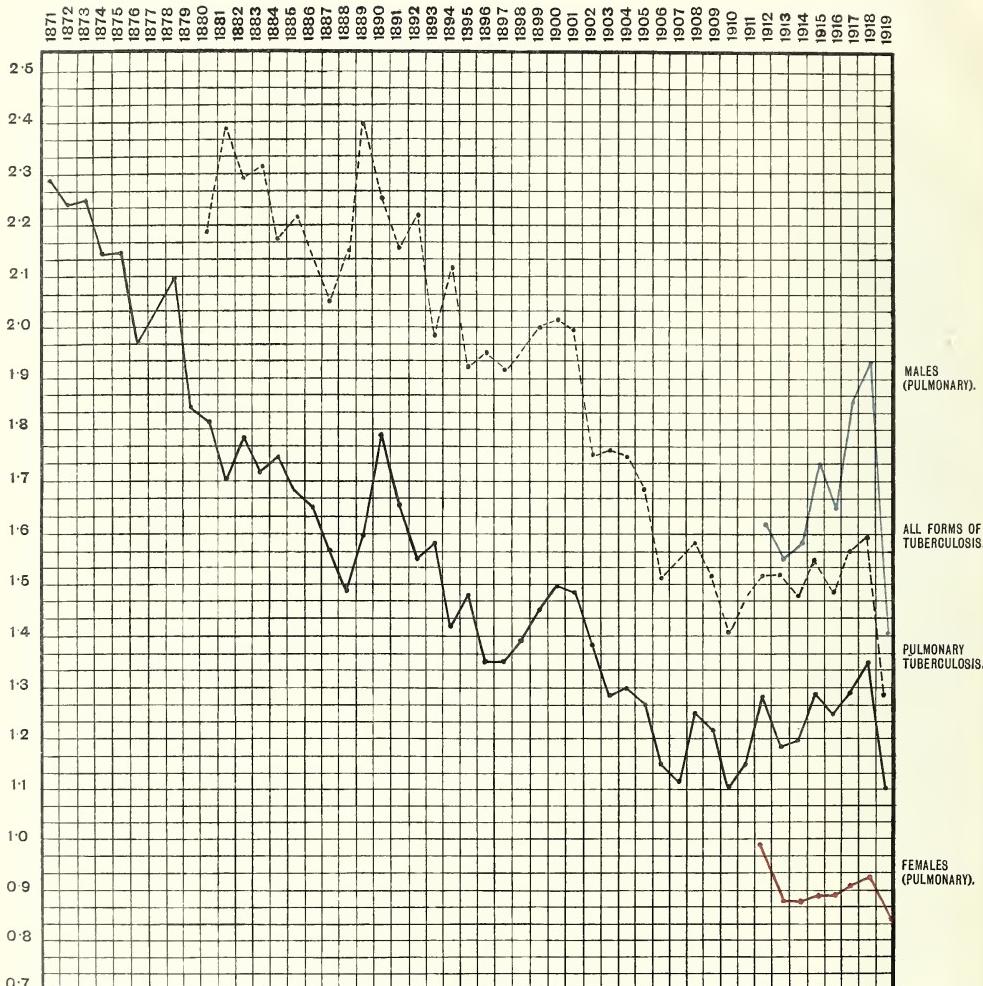
Ages.	Males.		Females.	
	1918.	1919.	1918.	1919.
0	30	22	14	14
1	37	17	36	14
2	36	12	35	15
3	24	7	20	4
4	15	7	20	6
5	54	11	76	11
10	38	10	55	10
15	57	17	81	29
20	47	24	121	43
25	228	109	342	117
35	130	80	136	63
45	121	88	101	64
55	81	59	64	64
65	49	40	85	54
75	13	16	23	27
85	1	2	2	6
Total	961	521	1,211	541

As far as can be ascertained, no substantial advance has been made either in the prevention or in the cure of the disease during 1919. Much investigation has been carried out.

CHART NO. 3.

DEATH-RATES IN BIRMINGHAM FROM TUBERCULOSIS.

(Registration Area prior to 1901.)



ALL FORMS OF TUBERCULOSIS

PULMONARY TUBERCULOSIS

" " (MALES)

" " (FEMALES)

DIARRHEA AND ENTERITIS.

This disease was not markedly prevalent during 1919. The comparative figures for the past 19 years are set out below:—

	Deaths from Diarrhea and Enteritis.	Death-rate per 1,000.	Maximum Air Temperature.*	Days with 75° or over.*	Maximum Soil Temperature (4ft. deep).*	Amount of Rain.*
1901	... 1,320	1.74	88.0	17	56.0	5.91
1902	... 634	.82	81.4	4	53.9	7.51
1903	... 921	1.19	83.8	4	53.8	9.85
1904	... 1,422	1.82	81.8	16	55.8	5.75
1905	... 839	1.06	80.3	7	55.4	7.33
1906	... 1,439	1.80	90.6	15	56.2	2.97
1907	... 511	.63	76.8	1	53.2	6.08
1908	... 873	1.06	82.0	7	54.2	6.94
1909	... 535	.65	84.4	9	54.3	7.63
1910	... 541	.65	73.9	0	53.2	8.24
1911	... 1,390	1.65	93.9	40	57.2	3.27
1912	... 346	.41	82.2	4	53.9	10.99
1913	... 970	1.11	79.4	6	54.0	4.51
1914	... 767	.87	82.6	8	55.3	7.00
1915	... 684	.77	74.6	0	54.3	8.34
1916	... 489	.55	82.1	14	54.8	5.42
1917	... 366	.41	78.4	5	54.0	9.74
1918	... 445	.51	81.3	13	55.9	9.83
1919	... 260	.28	83.0	12	55.0	8.44

*In the third quarter of the year.

The above figures indicate that the death-rate from this group of diseases was lower during 1919 than in any previous year.

TUBERCULOSIS. ALL FORMS.

There were 3,116 notifications received during 1919; a number considerably less than in any year since notification commenced.

The deaths from all forms of Tuberculosis numbered 1,188, equal to a mortality rate of 1.28 per 1,000 of the population. This is the lowest rate on record.

Chart No. 3 shows the death-rate from all forms of Tuberculosis by the dotted line.

The introduction of National Insurance in 1911, the complete notification of the disease from 1913 onwards, and, lately, the great War have disturbed or disguised the progress made in reducing this disease, so that it is difficult to appraise the value of the statistics or of the results of efforts made to reduce its prevalence.

VARIETIES OF TUBERCULOSIS NOTIFIED IN 1919.

Pulmonary Tuberculosis	...	...	...	...	...	...	2,704
Tubercular Meningitis	...	...	...	...	...	...	31
Tubercle of the Abdomen	...	...	...	...	...	...	60
Tubercle of the Spinal Column	...	...	...	...	...	...	5
Tubercle of the Joints	...	...	...	...	...	...	15
Disseminated Tuberculosis	...	...	...	...	...	...	24
Tubercle of the Glands and other parts	...	...	...	...	...	...	277

COST OF PREVENTIVE WORK.

The following are the amounts devoted directly to anti-tuberculosis work, in visitors for the sick and on sanatoria and hospitals. Along with the figures of expenditure are placed the figures for Total Deaths and Total Notifications.

	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
Deaths from all forms of Tuberculosis	...	1230	1292	1341	1293	1377	1324	1405	1385 1188
Death-rate per 1,000	...	1.46	1.52	1.53	1.47	1.55	1.48	1.56	1.60 1.28
Notifications	...	3363*	4394*	5196	3815	3518	3830	3543	3254 3116
Gross Expenditure on Tuberculosis by Municipality	...	£7,789	£12,337	£19,753	£29,506	£48,354	£46,981	£58,344	£65,169 £80,973

*Pulmonary only.

PULMONARY TUBERCULOSIS.

Chart No. 3, opposite page 17, shows the course of mortality from this disease since 1871.

The following figures indicate the morbidity :—

	1914.	1915.	1916.	1917.	1918.	1919.
Notified Cases ...	3,317	3,027	3,388	3,074	2,905	2,704
Deaths ...	1,059	1,141	1,107	1,169	1,171	1,019
Morbidity % ...	32	38	33	38	40	38
Recovery Rate % ...	68	62	67	62	60	62

The cases and deaths from Pulmonary Tuberculosis have been as follows :—

	Cases Notified.	No. of Deaths.	Death-rate in Birmingham.	Death-rate in England and Wales.
1901	...	1,120	1·47	1·26
1902	...	1,071	1·38	1·23
1903	...	992	1·28	1·21
1904	...	1,018	1·30	1·24
1905	...	994	1·26	1·14
1906	...	908	1·14	1·16
1907	...	898	1·11	1·15
1908	...	1,021	1·24	1·12
1909	...	1,008	1·22	1·09
1910	...	898	1·08	1·01
1911	...	958	1·14	1·08
1912	4,394	1,088	1·28	1·04
1913	4,229	1,041	1·19	1·01
1914	3,317	1,059	1·20	1·04
1915	3,027	1,141	1·28	1·16
1916	3,388	1,107	1·24	1·18
1917	3,074	1,169	1·30	1·25
1918	2,905	1,171	1·35	1·34
1919	2,704	1,019	1·10	—

PULMONARY TUBERCULOSIS, 1913-1919. NOTIFIED CASES IN AGE AND SEX GROUPS.

AGES.	MALES.							FEMALES.						
	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
Under 10 ...	235	194	188	267	245	182	173	177	162	189	251	212	184	121
10-15 ...	165	149	138	185	173	170	132	155	141	152	215	214	180	112
15-20 ...	169	135	90	112	116	114	92	157	127	108	125	106	116	90
20-25 ...	199	181	129	161	117	108	165	315	218	192	170	150	156	143
25-35 ...	493	392	326	388	355	370	424	583	444	383	334	353	335	286
35-45 ...	441	338	352	370	364	356	359	402	272	267	301	244	249	208
45-55 ...	288	228	207	213	173	185	178	165	139	126	131	109	78	88
55 up ...	195	126	115	100	96	86	97	90	71	65	65	47	36	36
	2,185	1,743	1,545	1,796	1,639	1,571	1,620	2,044	1,574	1,482	1,592	1,435	1,334	1,084

It will be seen from the above that the incidence is always less among females than males and that last year this was increasingly the case.

The notification of Tuberculosis in Birmingham has in the past been at least as efficient as in most of the other great towns as judged by the relationship between notification and mortality. This is indicated below :—

PULMONARY TUBERCULOSIS, 1919.

	Notified Cases.	Deaths.	Notified Cases per 100 deaths.
Glasgow ...	2,044	1,178	174
Birmingham ...	2,704	1,019	265
Liverpool ...	1,970	1,089	181
Manchester ...	1,588	951	167
Leeds ...	1,076	542	199
Sheffield ...	932	476	196

MALE AND FEMALE INCIDENCE AND MORTALITY FROM PULMONARY TUBERCULOSIS.

	MALES.				FEMALES.			
	Cases.	Rate per 1,000	Deaths.	Rate per 1,000	Cases.	Rate per 1,000	Deaths.	Rate per 1,000
0—15 ...	305	2·25	22	0·16	233	1·68	24	0·17
15—25 ...	257	3·40	52	0·69	233	2·31	94	0·93
25—35 ...	424	5·65	108	1·44	286	3·03	96	1·02
35—45 ...	359	6·17	165	2·83	208	2·88	105	1·45
45—55 ...	178	4·85	166	4·52	88	1·74	61	1·21
55—65 ...	81	3·39	64	2·67	23	0·85	28	1·04
Over 65 ...	16	1·09	24	1·63	13	0·62	10	0·48
All ages ...	1,620	3·86	601	1·43	1,084	2·15	418	0·83

DISTRIBUTION OF PULMONARY TUBERCULOSIS SICKNESS RATES PER 1,000, 1915—1919.

Central Wards ...	St. Paul's	5·11	Average 5·12
	St. Mary's ...	...	...	...	...	...	5·26
	Duddeston and Nechells ...	...	...	...	...	...	5·08
	St. Bartholomew's ...	...	...	...	...	...	5·69
	St. Martin's and Deritend ...	...	...	...	...	...	5·10
	Market Hall ...	...	...	...	...	...	4·85
	Ladywood ...	...	...	...	...	...	4·77
Middle Ring ...	Lozells	3·50	Average 3·22
	Aston ...	...	...	...	...	...	3·06
	Washwood Heath ...	...	...	...	...	...	2·90
	Saltley ...	...	...	...	...	...	2·70
	Small Heath ...	...	...	...	...	...	3·68
	Sparkbrook ...	...	...	...	...	...	3·17
	Balsall Heath ...	...	...	...	...	...	3·23
	Edgbaston ...	...	...	...	...	...	2·45
	Rotton Park ...	...	...	...	...	...	3·77
	All Saints' ...	...	...	...	...	...	3·70
Outer Ring ...	Soho	2·01	Average 2·12
	Sandwell ...	...	...	...	...	...	1·95
	Handsworth ...	...	...	...	...	...	2·73
	Erdington North ...	...	...	...	...	...	1·88
	Erdington South ...	...	...	...	...	...	2·06
	Yardley ...	...	...	...	...	...	2·37
	Acocks' Green ...	...	...	...	...	...	2·76
	Sparkhill ...	...	...	...	...	...	2·43
	Moseley and King's Heath ...	...	...	...	...	...	1·51
	Selly Oak ...	...	...	...	...	...	2·35
	King's Norton ...	...	...	...	...	...	1·92
	Northfield ...	...	...	...	...	...	1·92
	Harborne ...	...	...	...	...	...	1·73

It will be noticed that in the Central Areas the sickness rate is twice as high as in many of the suburban wards.

Notified Cases of Tuberculosis, 1919.

		PULMONARY.		MENINGITIS.		ABDOMINAL.		SPINE.		JOINTS.		OTHER ORGANS.		DISSEMINATED.		TOTAL.									
	Males Females	Total	Males Females	Total	Males Females	Total	Males Females	Total	Males Females	Total	Males Females	Total	Males Females	Total	Males Females	Total	Males Females	Total							
Under 1 year	2	2	4	2	2	4	2	4	6	—	—	—	—	—	3	9	8	17							
1 and under 2	—	2	2	3	—	3	3	2	5	—	—	—	—	—	1	1	2	7	7	14					
2	3	7	14	4	1	5	3	5	8	—	1	1	—	—	2	2	2	2	21	16	37				
3	4	7	2	9	1	2	3	1	—	1	—	—	1	7	6	13	—	—	17	10	27				
4	5	16	4	20	2	2	4	1	2	3	—	—	—	—	3	5	8	—	—	22	13	35			
5	10	141	104	245	2	5	7	7	11	18	—	1	1	—	1	52	104	4	2	6	207	175	382		
10	15	132	112	244	—	1	1	6	3	9	—	—	—	2	24	45	69	3	—	3	167	161	328		
15	20	92	90	182	—	1	1	2	3	—	—	—	2	1	3	18	19	37	2	—	2	115	113	228	
20	25	165	143	308	—	2	2	—	1	1	—	1	1	—	—	5	9	14	—	—	—	170	156	326	
25	35	424	286	710	—	—	1	1	2	—	1	1	1	2	3	5	6	11	1	3	4	432	299	731	
35	45	359	208	567	—	—	1	—	1	—	1	—	1	2	1	3	2	7	9	—	2	365	218	583	
45	55	178	88	266	—	1	1	3	—	3	—	—	—	1	1	—	2	2	—	—	—	181	92	273	
55	65	81	23	104	—	—	—	—	—	—	—	—	—	—	1	1	—	1	1	—	—	81	25	106	
Over 65	... All Ages	16 1020	13 1084	29 2704	14	17	31	29	31	60	1	4	5	9	6	15	121	156	277	16	8	24	1810	1306	3116
Over 65	... All Ages	16 1020	13 1084	29 2704	14	17	31	29	31	60	1	4	5	9	6	15	121	156	277	16	8	24	1810	1306	3116

NON-PULMONARY TUBERCULOSIS.

	Cases Notified.	No. of Deaths.	Death-rate in Birmingham.	Death rate in England and Wales.
1901	...	395	.52	.54
1902	...	285	.37	.51
1903	...	370	.48	.54
1904	...	351	.45	.54
1905	...	322	.41	.49
1906	...	295	.37	.50
1907	...	343	.43	.47
1908	...	287	.35	.47
1909	...	248	.30	.45
1910	...	270	.32	.42
1911	...	272	.32	.38
1912	...	204	.24	.33
1913	967	300	.34	.34
1914	498	234	.27	.32
1915	491	236	.27	.35
1916	442	217	.24	.35
1917	469	236	.26	.37
1918	349	214	.25	.35
1919	412	169	.18	—

VARIETIES OF NON-PULMONARY TUBERCULOSIS.

	Cases notified in 1919.	Deaths not notified as cases.	Total Deaths.
Tubercular Meningitis	...	31	68
Abdominal Tuberculosis	...	60	46
Tuberculosis of Spine...	...	5	9
Tuberculosis of Joints	...	15	7
Tuberculosis of other organs, mostly glands	277	6	10
Disseminated Tuberculosis	...	24	29

Tuberculosis has been the subject of somewhat gloomy statements, both officially and unofficially. It is obvious that the persons making these statements do not appreciate the following important facts:—

- (1) That Tuberculosis is mainly a very chronic disease, and that measures taken to-day will only be apparent in their effects in some years to come.
- (2) That in most areas what has been done is so trivial in amount that it could not be expected to substantially reduce the prevalence of such a disease.
- (3) That "Notification" has brought to light and labelled many persons whose deaths would have been classified under other headings but for notification.
- (4) That four years of war have profoundly influenced many lives. War conditions put a strain on the soldier and the civilian alike, lowering resistance and making those with any nidus of infection succumb to it.

Our Birmingham figures were worse during the war years than before, so far as deaths go. Immediately the war terminated they commenced to improve. We are now getting fewer deaths than before the war, and we are getting far fewer new cases.

As regards the result of treatment, there is reason to value what has been accomplished. Treatment is directed to prevent infection spreading, and to the arrest of the disease in the individual. There is no doubt as to our getting fewer cases in young adults.

As regards the arrest of the disease, the following figures for the first year of complete notification (1913), when a large number of chronic and severe cases came on our register for the first time, show what may be considered as the worst results. These are, however, very much better than those reported from towns which have dealt with Tuberculosis in a half-hearted way.

Total pulmonary cases notified in 1913	...	...	...	...	4,146
Cases never found (wrong address, common lodging house, or in infirmaries, and not visited)	...	...	...	...	209
Left and gone to ascertained addresses outside the City	...	...	...	...	208
Removed during last six years and not traced locally or through the Death Registers	...	...	...	...	625
No. remaining whose history is known up to April, 1920	...	...	...	...	3,104
Of these 3,104 cases:-					
1,371 have died during the past six years	...	...	...	...	i.e., 44 per cent.
1,540 are doing usual full time work	...	...	...	...	50 "
80 are doing part time work	...	...	...	...	"
89 are not able to do any work	...	...	...	...	6 "
24 have no occupation	...	...	...	...	"

TUBERCULOSIS VISITORS' WORK.

Primary visits to homes of patients (ex-soldiers 789, others 2,483)	3,272
Patients advised to get separate bed	...
" " use separate bedroom	...
" " keep windows open	...
Periodical revisits (ex-soldiers 4,493, others 22,427)	...
Special revisits	6
" 6,328	...
Total visits and revisits	...
Patients recommended for extra nourishment, clothing or bedding	86
Defective conditions reported to Sanitary Inspectors	902

TUBERCULOSIS PATIENTS EXAMINED.

During the statistical year, which comprises 53 weeks and ended on Jan. 3rd, 1920, the patients examined at the Broad Street Centre were as follows:—

	New Patients.	Contacts.	Old Patients Re-examined.
Completed examinations	1,811	570	4,131
No. recommended for Sanatorium	1,154	267	491
" Hospital	143	28	114
" Dispensary	123	60	1,346
" Domieiliary treatment	126	15	486
No treatment required at present	265	200	1,694
Incomplete examinations	902	568	26
Total examinations	2,713	1,138	4,157

PATIENTS TREATED AT SANATORIA.

During the same 53 weeks the following patients were admitted to the Sanatoria and the Dispensary:

	Yardley Road.	Salterley Grange.	Romsley Hill.	West Heath.	Witton.	Total.
Admitted during year	...	864	431	613	333	120
Discharged	...	759	413	561	218	85
Died	...	88	1	8	83	34
Remaining at end of year	...	215	83	105	88	63
						554

TREATMENT AT BROAD STREET DISPENSARY.

New patients attending for treatment	...	...	...	954
Total attendances of old and new patients	...	...	...	29,531

REPORT ON THE TREATMENT OF TUBERCULOSIS.

(BY DR. G. B. DIXON, CHIEF TUBERCULOSIS OFFICER.)

A large proportion of the treatment of pulmonary tuberculosis in Birmingham is undertaken in institutions under the control of the Public Health Department, by the General Hospitals, and by institutions working in conjunction with, and in some instances subsidised by, the Municipal Authority; included amongst the latter are the Romsley Hill Sanatorium, with 140 beds, 120 of which are reserved for patients sent in by the Public Health Department, and the special department of the General Dispensary in Great Charles Street.

The doctors on the panel of the Local Insurance Committee and private practitioners also treat a number of tuberculous patients.

The institutions engaged in the treatment of pulmonary tuberculosis are:—

The Anti-Tuberculosis Centre (Municipal), 44a Broad Street, the medical staff of which is:— Dr. G. B. Dixon, chief tuberculosis officer; Dr. C. R. Goodwin, Dr. A. G. Campbell, Dr. E. Glover and Dr. D. J. Loughran, assistant tuberculosis officers. With the exception of Dr. Goodwin and Dr. Glover, who is also medical superintendent of Salterley Grange Sanatorium, these doctors constitute the staff of the Yardley Road Sanatorium; in addition Dr. D. Peebles gives part-time assistance in the treatment. Dentist, Mr. R. Payton.

The Yardley Road Sanatorium (Municipal), 287 beds, situated within the city boundary, medical superintendent, Dr. G. B. Dixon; assistant medical officers, Dr. A. G. Campbell and Dr. D. J. Loughran; Matron, Miss Moore.

The Salterley Grange Sanatorium, near Cheltenham (Municipal), 96 beds. Medical superintendent, Dr. E. Glover; Matron, Miss Wood.

The West Heath Hospital (Municipal) has 80 beds for the treatment of acute cases of pulmonary tuberculosis. Medical superintendent, Dr. D. Peebles; Matron, Miss Bywater.

Witton Hospital (Municipal) has accommodation for 70 female patients who are suffering from pulmonary tuberculosis. Matron, Miss Thornton.

The Romsley Hill Sanatorium (Birmingham Hospital Saturday Fund), 140 beds, of which 120 are rented by the Public Health Committee, which are filled, when possible, by patients subscribing to the Hospital Saturday Fund. Medical superintendent, Dr. P. Allen; Matron, Miss Murray.

The Special Department of the General Dispensary, Great Charles Street, is an out-patient department for the treatment of tuberculosis in the Municipal Scheme, and receives a subsidy from the City Council. Medical superintendent, Dr. Crowe.

THE ANTI-TUBERCULOSIS CENTRE.

All the cases of pulmonary tuberculosis (notified to the Medical Officer of Health for the City) who desire treatment are examined at the Anti-Tuberculosis Centre, Broad Street, and a suitable form of treatment is decided upon; at the same time useful advice and instructions are given on the subjects of dietary, ventilation, sputum collection, disinfection, and occupation, etc.

The Anti-Tuberculosis Centre is open daily, including the evenings on five days weekly, and on Saturdays for half a day; new patients are examined and old patients are re-examined by appointment during the mornings and the afternoons; treatment is given during the evenings to those who are working, and in the afternoons to children and those women and men who are not working.

On their return from the Sanatoria patients are again seen at the Centre, where many continue to attend as out-patients; some, however, return to their private doctors. The patients attending the Centre are examined from time to time, and those who have been patients in the past are re-examined after varying intervals. Unavoidable shortage of doctors has again, unfortunately, resulted in the curtailment of this part of our work to a certain extent.

From this description it is evident that the Anti-Tuberculosis Centre fulfils the triple rôle of (1) a sorting house; (2) an information bureau; and (3) a centre for treatment.

ATTENDANCES AND EXAMINATIONS OF PATIENTS DURING THE YEAR.

During the calendar year, which differs slightly from the registration year, the total number of attendances for diagnosis and treatment at the Centre were 37,539. The total attendances for treatment alone were 29,531, and the total number of examinations was 8,008. The total attendances for treatment show a decrease on the previous year, and the total examinations show an increase; this is accounted for by the fact that a large amount of work has been done in the repeated examinations, at intervals, of ex-service patients for the Local War Pensions Committee, many of whom have not required treatment.

NUMBER OF PATIENTS EXAMINED DURING THE YEAR.

During the year 1,862 newly notified cases were examined, 1,335 return (*i.e.*, those who have been notified in previous years) patients were examined, and 1,009 "suspect" or un-notified cases were also examined. Of these patients it was necessary to examine 183 newly notified cases, and 104 return cases at their own homes, and these are not included in the following tables, and 997

patients who had completed a course of treatment during the year were also examined, in addition. At the end of the last quarter there were 178 notified cases and 193 "suspect" cases who had been examined at least once, and for whom, at that time, no recommendation had been made, so that 5,574 patients were examined during the year, and they received 8,008 examinations.

During 1919 74 patients were recommended for Sanatorium treatment from the Special Department of the General Dispensary, Great Charles Street.

PATIENTS REFERRED TO US FOR EXAMINATION DURING THE YEAR.

In the following tables particulars are given relating to localities, ages, occupations and housing conditions of the 3,919 patients referred to us for examination during the year:—

LOCALITY OF RESIDENCE.

Patients living less than 1 mile from the centre of City	...	...	1,068
" " 1 mile and less than 2 miles from centre of City	...	...	1,419
" " 2 miles " " 3 "	...	...	1,100
" " 3 " " 4 "	...	...	217
" " 4 " " 5 "	...	...	115
			3,919

AGES OF PATIENTS.

Under 10 years of age	...	...	628	Out-door occupations	...	...	...	273
10 to 14 "	...	...	464	Domestic	"	...	...	632
15 to 19 "	...	...	283	Sedentary	"	(including School)	...	1,149
20 to 24 "	...	...	392	Commercial	"	...	...	95
25 to 29 "	...	...	515	Engineering	"	...	...	286
30 to 34 "	...	...	551	Metal Trades	"	...	...	769
35 to 39 "	...	...	471	Building Trades	"	...	...	112
40 to 44 "	...	...	317	Other Trades	"	...	...	603
45 to 49 "	...	...	161					
50 to 54 "	...	...	76					3,919
Over 55 years of age	...	...	61					
			3,919					

HOUSING CONDITIONS.

Occupants of 1 Room.

There were 65 patients referred to us during the year who had the use of a single room only.

24 of these were the only occupants.

16 shared their room with 1 person.	...	...	2 persons.
8 " " " " 2	...	...
6 " " " " 3	...	...
6 " " " " 4	...	...
1 " " " " 5	...	...
2 " " " " 6	...	...
1 " " " " 7	...	...
1 " " " " 8	...	...

65

Occupants of 2 Rooms.

137 of our patients were the occupants of 2 rooms.

4 of these were the only occupants.

32 shared their rooms with 1 person.	...	...	2 persons.
22 " " " " 3	...	...
18 " " " " 4	...	...
20 " " " " 5	...	...
7 " " " " 6	...	...
1 " " " " 7	...	...
3 " " " " 8	...	...

137

Occupants of 3 Rooms.

1,106 patients were the occupants of 3 rooms.

6 of these were the only occupants.

86 shared their rooms with 1 person.	...	...	2 persons.
170 " " " " 3	...	...
237 " " " " 4	...	...
174 " " " " 5	...	...
119 " " " " 6	...	...
57 " " " " 7	...	...
14 " " " " 8	...	...

1,106

Occupants of 4 Rooms.

621 patients were the occupants of 4 rooms.

2 of these were the only occupants.

37 shared their rooms with 1 person.	...	...	2 persons.
97 " " " " 3	...	...
146 " " " " 4	...	...
114 " " " " 5	...	...
103 " " " " 6	...	...
64 " " " " 7	...	...
36 " " " " 8	...	...
22 " " " " 8	...	...

621

400 of our patients had the use of five rooms, 1,233 had the use of six rooms, 166 came from seven-roomed dwellings, 130 came from eight-roomed dwellings, and 61 came from nine-roomed dwellings.

These figures show that 1,929 of our patients, or 49·2 per cent., came from dwellings where there were not more than four rooms; and 1,106, or 28·2 per cent., were occupants of three-roomed dwellings.

DENTAL TREATMENT.

Mr. Randall has provided me with the following short account of the work done in his department during the last year:—

"During the year 1919 the following dental operations have been done at the Anti-Tuberculosis Centre, Broad Street:—

Extractions, 933. Gas administered 151 times and local anaesthetics (Novocain) 146 times, and ethyl chloride to children 26 times. On the conservative side there have been 45 amalgam fillings, 28 cement fillings, 5 root fillings; the teeth of 34 patients have been scaled. Dentures have been supplied to 11 persons.

The large proportions of extractions in comparison to conservative work is indicative of the very poor condition of the teeth of patients presenting themselves for treatment."

The teeth and gums of patients seeking advice at the Centre are examined and noted. Attention is paid to the state of the teeth as regards caries, and the number of teeth thus affected is recorded. The possibility of efficient mastication is gauged by the approximation of molars and bicusped, and the gums are examined for the presence of pus or other inflammatory changes.

CONDITION OF TEETH AND GUMS.

Number of Teeth with infected pulp chambers.			Masticatory power in Molars and Bicusped.			State of Gums.		
None	1 to 4	More than 4	6 or more	Less than 6	None	Healthy	Gingivitis	Pyorrhœa
None 557	1 to 4 2,534	More than 4 524	6 or more 2,234	Less than 6 1,062	None 330	Healthy 2,305	Gingivitis 1,040	Pyorrhœa 280

There were 274 patients with dentures.

FAMILY HISTORY OF TUBERCULOSIS.

In the following table there is set out the family history of patients referred to us during the year, so far as tuberculosis is concerned:—

1,938 patients had no known history of tuberculosis amongst their relatives.

215 Fathers of patients were known to be suffering from or had died from tuberculosis.

153	Mothers	"	"	"	"	"	"	"
194	Brothers	"	"	"	"	"	"	"
154	Sisters	"	"	"	"	"	"	"
75	Children	"	"	"	"	"	"	"
49	Husbands	"	"	"	"	"	"	"
31	Wives	"	"	"	"	"	"	"
110	Uncles	"	"	"	"	"	"	"
73	Aunts	"	"	"	"	"	"	"
90	Grandparents	"	"	"	"	"	"	"
23	Cousins	"	"	"	"	"	"	"
11	Fellow Workers	"	"	"	"	"	"	"
12	Intimate Friends	"	"	"	"	"	"	"
775	Brother and Sister	"	"	"	"	"	"	"
9	Child	"	"	"	"	"	"	"
5	Husband	"	"	"	"	"	"	"
2	Wife	"	"	"	"	"	"	"
21	Uncle	"	"	"	"	"	"	"
14	Aunt	"	"	"	"	"	"	"
15	Sister and Child	"	"	"	"	"	"	"
3	Husband	"	"	"	"	"	"	"
3	Wife	"	"	"	"	"	"	"
26	Uncle	"	"	"	"	"	"	"
13	Aunt	"	"	"	"	"	"	"
80	Father and Mother	"	"	"	"	"	"	"
78	Brother	"	"	"	"	"	"	"
80	Sister	"	"	"	"	"	"	"

13 Father and Child of patients were known to be suffering from or had died from tuberculosis.

16	"	Husband	"	"	"	"	"	"	"	"	"
1	"	Wife	"	"	"	"	"	"	"	"	"
35	"	Uncle	"	"	"	"	"	"	"	"	"
24	"	Aunt	"	"	"	"	"	"	"	"	"
67	Mother and Brother	"	"	"	"	"	"	"	"	"	"
45	"	Sister	"	"	"	"	"	"	"	"	"
6	"	Child	"	"	"	"	"	"	"	"	"
4	"	Husband	"	"	"	"	"	"	"	"	"
4	"	Wife	"	"	"	"	"	"	"	"	"
32	"	Uncle	"	"	"	"	"	"	"	"	"
18	"	Aunt	"	"	"	"	"	"	"	"	"
1	Husband and Uncle	"	"	"	"	"	"	"	"	"	"
1	"	Aunt	"	"	"	"	"	"	"	"	"
1	Wife and Uncle	"	"	"	"	"	"	"	"	"	"
42	Uncle and Aunt	"	"	"	"	"	"	"	"	"	"
19	"	Grandparents	"	"	"	"	"	"	"	"	"
23	Child and Husband	"	"	"	"	"	"	"	"	"	"
12	"	Wife	"	"	"	"	"	"	"	"	"
2	"	Uncle	"	"	"	"	"	"	"	"	"
1	Child and Aunt	"	"	"	"	"	"	"	"	"	"

TREATMENT RECOMMENDED.

Of the 3,919 patients referred to us during the year 1,034 were children of 14 years and under, and of this number no treatment was required for 553, 234 were recommended direct for Sanatorium treatment, 226 were referred for observation, 25 were recommended for home treatment, 37 were placed on out-patient or dispensary treatment, 6 cases required Hospital treatment, and other forms of treatment were recommended in 3 instances.

Of the 2,835 adult patients no form of treatment was required for 775 patients, Sanatorium treatment was recommended for 1,193, a period of observation was recommended for 212 cases, domiciliary was recommended for 336, Dispensary or out-patient treatment for 118, and Hospital treatment for 201.

STAGE OF DISEASE.

In the following tables the patients are divided into children of 14 and under, and adults, and the numbers are shown under the headings of the different stages of the disease in which the patients were when they presented themselves.

1,084 CHILDREN OF 14 YEARS AND UNDER.

Stage I.	Stage II.	Stage III.	No active signs of Tuberculosis.	Tubercular glands, abdomen, joints, etc.
256	149	63	580	36

2,835 ADULT PATIENTS.

Stage I.	Stage II.	Stage III.	No active signs of Tuberculosis.	Tubercular glands, abdomen, joints, etc.
704	1,011	566	524	30

WORKING CAPACITY.

In the following tables the working capacity of our patients when they first came to us is noted.

ADULTS.

CHILDREN.

Unimpaired	...	...	...	...	...	...	...	...	...	...	694
Impaired	...	...	...	...	...	1,362	Impaired	...	...	...	322
Totally incapacitated	...	...	...	...	...	573	Totally incapacitated	...	...	...	68
<hr/>											<hr/>
2,835											1,084

SPUTUM RESULTS.

The result of sputum examinations is given in two tables, differentiating the patients into children and adults. In each table is shown the number in whom tubercle bacilli were present and absent; the number without sputum is also given.

Amongst the children there were 46, or 4·2 per cent., presenting tubercle bacilli in their sputum, and amongst the adults there were 670, or 23·6 per cent., whose sputum was positive for tubercle bacilli.

ADULTS.						CHILDREN.					
Tubercle Bacilli present	...	...	...	670		Tubercle Bacilli present	...	...	...	46	
Tubercle Bacilli absent	...	...	...	1,453		Tubercle Bacilli absent	...	...	...	240	
No sputum	...	...	...	712		No sputum	...	...	...	798	
				2,835						1,084	

In the Laboratory during the year there were 5,809 specimens of sputa examined. There were 887 specimens examined by the concentration method of Davis, and the results are given below.

RESULT OF EXAMINATION AFTER CONCENTRATION.

Tubercle Bacilli demonstrated after 1st concentration	...	77	, or 8·68 per cent.
" " 2nd	...	6	
" " 3rd	...	3	
" " 4th	...	0	

COMPLETED CASES.

DETAILS OF CASES COMPLETING TREATMENT AT CENTRE DURING THE YEAR.

In the following tables the stage of the disease and the condition of the sputum, the working capacity, and the condition of the disease upon the completion of treatment are set out.

During the year 997 patients completed a course of treatment at the Centre. Of these 720 were adults and 277 were children. Of the adults 429 were newly notified cases, 175 were return cases, and 116 were "suspect" and "contact" cases. Of the 277 children 151 were new cases, 31 were return cases, and 95 were "suspect" or "contact" cases.

Amongst the children 29, or 10·4 per cent., in addition to pulmonary tuberculosis suffered from glandular tuberculosis and 3 from abdominal tuberculosis.

STAGE OF DISEASE AND CONDITION OF SPUTUM.

In the following tables the stage of the disease is shown for children and adults, and the condition of the sputum at the commencement and termination of treatment is also given:—

	No sputum persisting.	No sputum becoming T.B.—	No sputum becoming T.B.+	T.B.— persisting.	T.B.— becoming T.B.+	T.B.— no sputum persisting.	T.B.+ persisting.	T.B.— becoming T.B.—	T.B.— no sputum persisting.	T.B.— becoming T.B.—	Total.	
Stage I. ...	50	9	2	79	1	46	4	17	4	212		
Stage II. ...	52	12	—	144	7	57	26	42	21	361		
Stage III....	13	4	—	40	6	10	31	26	11	141		
Glands, etc.	3	1	—	1	—	1	—	—	—	6		
	118	26	2	264	14	114	61	85	36	720		
				CHILDREN.								
Stage I. ...	73	10	1	16	1	25	—	2	2	130		
Stage II. ...	63	8	—	20	—	8	—	1	2	102		
Stage III....	10	1	—	4	—	6	3	2	—	26		
Glands, etc.	14	2	—	1	—	2	—	—	—	19		
	160	21	1	41	1	41	3	5	4	277		

WORKING CAPACITY.

In the following tables the change between the working capacity at the commencement and termination of treatment of the patients differentiated into stages of disease is shown for both adults and children, and the changes in the weight of children and adults differentiated according to the stages of disease is also shown:—

CHILDREN.

	Stage I.	Stage II.	Stage III.	Glands.	Total.
Unimpaired working capacity becoming impaired	6	3	—	—	9
Unimpaired capacity persisting	... 26	4	—	8	38
Impaired becoming unimpaired	... 83	77	4	11	175
Impaired persisting	... 10	11	8	—	29
Totally incapacitated becoming impaired	... 2	—	5	—	7
Totally incapacitated becoming unimpaired	... 3	7	8	—	18
Totally incapacitated persisting	... —	—	1	—	1
					277

ADULTS.

	Stage I.	Stage II.	Stage III.	Glands.	Total.
Unimpaired working capacity becoming impaired	6	6	2	1	15
Unimpaired becoming totally incapacitated	... —	—	2	—	2
Unimpaired capacity persisting	... 37	15	1	1	54
Impaired becoming unimpaired	... 132	218	54	3	407
Impaired becoming totally incapacitated	... 3	10	6	—	19
Impaired capacity persisting	... 27	86	32	—	145
Totally incapacitated becoming impaired	... 5	9	21	—	35
Totally incapacitated becoming unimpaired	... —	7	7	—	14
Totally incapacitated persisting	... 2	10	16	1	29
					720

CONDITION OF DISEASE ON COMPLETION OF TREATMENT.

In the following table the patients are differentiated according to the stage of the disease and as to whether they are adults or children, and the numbers are shown in which the disease has become arrested, improved, stationary, or progressive.

ADULTS.

	Disease arrested.	Disease improved.	Disease stationary.	Disease progressive.
Stage I.	152	50	1	9
Stage II.	191	123	6	41
Stage III.	28	56	3	54
Glands	3	3	—	—
	374	232	10	104

CHILDREN.

	Disease arrested.	Disease improved.	Disease stationary.	Disease progressive.
Stage I.	115	15	—	—
Stage II.	87	13	1	1
Stage III.	16	4	—	6
Glands	17	2	—	—
	235	34	1	7

OLD PATIENTS WHO ARE KNOWN TO HAVE DIED DURING THE YEAR 1919.

During the past year 393 old patients are known to have died; they included 234 male adults, 144 female adults, and 15 children. In the following tables they are arranged under the headings of males, females, and children, and the year in which the patient first came under treatment is noted, as are also the forms of treatment primarily advised, the stages of disease, and the condition of the sputum. The large proportion of those in the third stage of the disease with tubercle bacilli in their sputum is striking.

PATIENTS WHO DIED DURING THE YEAR 1919.

TABLE I. MALES.

Year Patient first came under treat- ment.	FORM OF TREATMENT PRIMARILY ADVISED.				STAGE OF DISEASE.				CONDITION OF SPUTUM.			Total.
	San.	Hosp.	Disp.	Dom. or Home.	I.	II.	III.	IV.	T.B. +	T.B. -	Nil.	
1910	1	—	—	—	—	—	1	—	1	—	—	1
1911	1	1	—	—	—	—	2	—	2	—	—	2
1912	3	—	1	—	1	3	—	—	4	—	—	4
1913	2	1	—	—	—	2	1	—	3	—	—	3
1914	8	2	3	1	2	5	7	—	13	1	—	14
1915	11	—	1	—	2	4	6	—	9	3	—	12
1916	18	2	1	3	2	8	14	—	15	7	2	24
1917	34	4	—	3	—	16	25	—	29	10	2	41
1918	35	20	2	4	1	9	51	—	43	17	1	61
1919	20	27	1	24	3	8	61	—	55	9	8	72
	133	57	9	35	11	55	168	—	174	47	13	234

PATIENTS WHO DIED DURING THE YEAR 1919.

TABLE II. FEMALES.

Year Patient first came under treat- ment.	FORM OF TREATMENT PRIMARILY ADVISED.				STAGE OF DISEASE				CONDITION OF SPUTUM.			Total.
	San.	Hosp.	Disp.	Dom. or Home.	I.	II.	III.	IV.	T.B. +	T.B. -	Nil.	
1912	—	—	—	—	—	—	—	—	—	—	—	—
1913	2	1	—	—	1	2	—	—	2	—	1	3
1914	5	1	1	1	—	4	4	—	7	—	1	8
1915	12	—	2	—	1	8	5	—	9	3	2	14
1916	6	—	—	1	—	3	4	—	2	2	3	7
1917	12	6	—	1	1	8	10	—	9	6	4	19
1918	25	14	1	4	—	9	35	—	28	8	8	44
1919	5	32	—	12	—	4	45	—	33	8	8	49
	67	54	4	19	3	38	103	—	90	27	27	144

PATIENTS WHO DIED DURING THE YEAR 1919.

TABLE III. CHILDREN.

Year Patient first came under treat- ment.	FORM OF TREATMENT PRIMARILY ADVISED.				STAGE OF DISEASE.				CONDITION OF SPUTUM.			Total.
	San.	Hosp.	Disp.	Dom. or Home.	I.	II.	III.	IV.	T.B. +	T.B. +	Nil.	
1913	—	—	—	—	—	—	—	—	—	—	—	—
1914	1	—	—	—	1	—	—	—	—	—	1	1
1915	2	—	—	1	1	1	1	—	—	1	2	3
1916	1	—	—	—	1	—	—	—	—	—	1	1
1917	2	—	—	—	1	1	—	—	1	—	1	2
1918	4	—	—	1	1	3	1	—	—	1	4	5
1919	1	—	1	1	—	1	2	—	1	—	2	3
	11	—	1	3	5	6	4	—	2	2	11	15

SUMMARY OF PATIENTS WHO RECEIVED TREATMENT AT THE CENTRE DURING
1913, 1914 AND 1915.

During the year 1913 there were 1,655 patients treated at the Centre, 1,410 of which are included in the following tables 245 were not classified completely, so are not included; but of these 37 are known to be dead and 104 cannot be traced, 65 are known to be working regularly, 13 are working irregularly, and 6 are totally incapacitated.

Of the 1,410 classified patients 638, or 45·2 per cent., are known to be working regularly at the present time, 134, or 9·5 per cent., are working irregularly, 67, or 4·7 per cent., are totally incapacitated, 46, or 3·2 per cent., are known to have left the city; of 304, or 20·8 per cent., there is no trace, and 221, or 15·6 per cent., are dead.

1913 CASES. ADULTS.

Cases in the Sputum of which Tubercle Bacilli
were demonstrated.

Year.	Working regularly.	Working irregularly.	Totally incapacitated.	Left the city.	No trace.	Dead.
1913	203	247	44	—	—	—
1914	204	158	31	4	62	25
1915	194	127	22	9	79	63
1916	179	101	23	10	93	88
1917	180	79	22	10	100	103
1918	180	59	17	13	104	121
1919	167	55	23	14	106	129

Cases in the Sputum of which Tubercle Bacilli
were not demonstrated.

Year.	Working regularly.	Working irregularly.	Totally incapacitated.	Left the city.	No trace.	Dead.
1913	452	310	42	—	—	—
1914	416	182	42	20	118	26
1915	392	153	39	24	143	53
1916	378	142	29	25	160	70
1917	377	127	28	26	166	80
1918	370	117	27	27	173	90
1919	399	69	42	29	173	92

1913 CASES. CHILDREN.

Year.	Working regularly.	Working irregularly.	Totally incapacitated.	Left the city.	No trace.	Dead.
1913	3	5	2	—	—	—
1914	3	6	1	—	—	—
1915	4	4	1	—	1	—
1916	3	3	1	—	3	—
1917	2	4	1	—	3	—
1918	3	3	1	—	3	—
1919	5	2	—	—	3	—

Year.	Working regularly.	Working irregularly.	Totally incapacitated.	Left the city.	No trace.	Dead.
1913	61	37	4	—	—	—
1914	56	28	7	1	10	—
1915	57	23	7	1	14	—
1916	58	20	6	1	17	—
1917	56	18	5	3	20	—
1918	57	14	6	3	22	—
1919	67	8	2	3	22	—

In the year 1914 there were 1,472 patients who received treatment at the Centre; of these 291, or 19·7 per cent., are dead, 747, or 50·7 per cent., are working regularly, 165, or 11·1 per cent., are working irregularly, 62, or 4·2 per cent., are totally incapacitated, 62, or 4·2 per cent., have left the city, and there is no trace of 145, or 9·8 per cent.

1914 CASES. ADULTS.

Cases in the Sputum of which Tubercle Bacilli
were demonstrated.

Year.	Working regularly.	Working irregularly.	Totally incapacitated.	Left the city.	No trace.	Dead.
1914	491	119	—	—	—	—
1915	225	48	21	20	91	—
1916	163	165	35	28	29	139
1917	122	25	31	32	172	—
1918	73	14	33	34	197	—
1919	56	20	22	50	209	—

Cases in the Sputum of which Tubercle Bacilli
were not demonstrated.

Year.	Working regularly.	Working irregularly.	Totally incapacitated.	Left the city.	No trace.	Dead.
1914	124	50	—	—	—	—
1915	253	32	25	41	32	—
1916	266	29	39	54	43	—
1917	292	21	38	55	58	—
1918	380	26	34	58	70	—
1919	370	39	29	75	75	75

1914 CASES. CHILDREN.

Year.	Working regularly.	Working irregularly.	Totally incapacitated.	Left the city.	No trace.	Dead.
1914	11	5	—	—	—	—
1915	12	2	—	—	—	—
1916	11	2	—	1	—	—
1917	8	2	—	1	—	—
1918	3	1	—	2	—	—
1919	2	—	—	2	—	—

Year.	Working regularly.	Working irregularly.	Totally incapacitated.	Left the city.	No trace.	Dead.
1914	52	145	20	—	—	—
1915	106	82	12	4	11	—
1916	122	62	8	5	15	—
1917	130	56	6	5	15	—
1918	154	29	4	9	15	6
1919	162	16	3	11	18	7

During the year 1915 there were 1,530 patients who received treatment at the Centre; of these 814, or 53·2 per cent., are now working regularly, 155, or 10·1 per cent., are working irregularly, 52, or 3·3 per cent., are totally incapacitated, 47, or 3·07 per cent., have left the city; there is no trace of 231, or 15·09 per cent., and 231, or 15·09 per cent., are known to be dead.

1915 CASES. ADULTS.

Cases in the Sputum of which Tubercle Bacilli
were demonstrated.

Cases in the Sputuni of which Tuberclle Bacilli
were not demonstrated.

REPORT ON YARDLEY ROAD SANATORIUM

(By Dr. G. B. DIXON, MEDICAL SUPERINTENDENT.)

In the Municipal and the Romsley Hill Sanatoria the treatment given to patients is on similar lines. It comprises hygienic and dietetic treatment, graduated rest, exercise and work, the employment of appropriate drugs when indicated, specific treatment by means of the various tuberculins, etc., radium treatment, the induction of artificial pneumo-thorax in suitable cases and heliotherapy, or treatment by the direct action of the sun's rays.

NUMBERS TREATED AND DELETION OF STAY.

During the past year, 888 patients were admitted to the Sanatorium, 787 were discharged, and 86 male patients and 1 female patient died. Of the total number of patients discharged, 183 were males, 232 were females, and 372 were children. The average duration of residential treatment in this Sanatorium, during the year, was 85-8 days; and included in the calculation are 145 patients who were admitted for a period of observation only, and who did not remain for more than three or four weeks, so that actually, the average duration of stay of those receiving treatment was more than 85-8 days.

Observation patients are those who after careful and repeated examinations at the Centre are found to be indefinite, either as to the presence or absence of tuberculosis, or as to its activity or otherwise when present: they are usually admitted for a period varying from two to four weeks.

The 86 male patients who died during the year were admitted without examination by the Tuberculosis Medical Staff.

CLASSIFICATION OF PATIENTS DISCHARGED.

The classification on admission to the Sanatorium of the 787 patients discharged is set out below:—

Only 56 of the 79 female patients admitted for the purpose of observation, and none of the 68 males admitted for observation, were subsequently treated at Yardley Road; the others were transferred to Salterley Grange and Romsey Hill Sanatoria. The 106 children, in whom a positive diagnosis was made were all treated at Yardley Road.

In the following table are given the results obtained after "observation" in the Sanatorium of the 300 "suspect" cases.

		Positive Diagnosis.	Negative Diagnosis.	Diagnosis Incomplete.	Total.
Males ...	...	43=64·7%	22	3	68
Females	...	56=70·5%	20	3	79
Children	...	106=69·6%	42	5	153
		205=68·6%	84	11	300

From the above table the percentage of positive diagnosis appears to be large, but it has to be borne in mind that most of these "suspect" cases form the residue after examination. (1) by the private practitioners, and (2) after a final sorting by the medical staff of the Anti-Tuberculosis Centre; apart from this, the percentage of positive diagnosis would have been much smaller.

DISCHARGED PATIENTS, TABULATED ACCORDING TO STAGE OF DISEASE, SEX AND AGE.

After deducting the number of patients who did not remain for treatment for various reasons, the number of male patients tabulated hereafter is 115, females 197, and children 322.

In the tables below they are arranged according to their age, sex, and stage of disease upon admission:—

MALES AND STAGE OF DISEASE.

Age.	Stadium I.	Stadium II.	Stadium III.	Total No.
Under 10 years	57	20	7	84
10 to 15	48	24	8	80
16 to 20	—	3	2	5
21 to 25	1	3	—	4
26 to 30	—	5	3	8
31 to 35	1	4	5	10
36 to 40	—	5	3	8
41 to 45	2	6	8	16
46 to 50	—	8	5	13
51 to 55	—	9	12	21
56 to 60	—	1	10	11
61 to 65	—	3	8	11
66 to 70	1	1	3	5
				276

FEMALES AND STAGE OF DISEASE.

Age.	Stadium I.	Stadium II.	Stadium III.	Total No.
Under 10 years	46	24	9	79
11 to 15	45	26	14	85
16 to 20	11	6	8	25
21 to 25	16	17	6	39
26 to 30	12	16	4	32
31 to 35	10	14	4	28
36 to 40	9	16	8	33
41 to 45	2	14	4	20
46 to 50	—	10	—	10
51 to 55	3	2	2	7
56 to 60	—	—	—	—
				358

EMPLOYMENT OF PATIENTS AND THEIR CAPACITY FOR WORK BEFORE AND AFTER TREATMENT.

The suitable employment of patients in Sanatoria is essential; and when possible, occupational therapy should be adopted. To-day it is practised in a limited manner only, the occupations mostly utilised being those of gardening and domestic work, which are insufficient, and lacking in interest for most patients; they have little educational value as at present organised, and when occupied in this way many patients feel that they are being exploited by the Sanatorium, and not being treated.

Interesting employment of a productive nature, with an educational value, preferably having some relation to the types of occupation at which the patients earn a livelihood, should be generally adopted and taught in Sanatoria; if this were done, interest in treatment would be sustained, and patients—whose resources in many instances are few, and when they do exist are not always made the most of—would be stimulated. As a result, loafing would become a lost art, mental and physical deterioration would be reduced to a minimum, and valuable assistance would be gained in making a judicious selection of those patients who were physically and temperamentally fitted for prolonged industrial re-education in a colony.

Motor driving and minor repairs, boot repairing, metal work, basket making, toy making, wood carving, joinery, poultry rearing, bee keeping, pig breeding, drug and seed growing, and market gardening are suitable forms of occupational therapy which are within the scope of most Sanatoria. This list is not intended to be exhaustive; there are many other occupations which can be engaged in out-of-doors, or indoors, if under suitable hygienic conditions.

In the succeeding tables the working capacity for males, females, and children, before and after treatment in the Sanatorium, is set out according to the stage of the disease in which the patient is classified.

WORKING CAPACITY (MALES).

	Unimpaired.	Impaired.	Totally Incapacitated.	Total No.
Stadium I.				
Before treatment	...	—	7 = 100%	—
After treatment	...	4 = 57.14%	3 = 42.85%	7
Stadium II.				
Before treatment	...	2 = 4.26%	34 = 72.34%	11 = 23.4%
After treatment	...	16 = 34.04%	28 = 59.57%	3 = 6.38%
Stadium III.				
Before treatment	...	—	20 = 32.78%	41 = 67.21%
After treatment	...	1 = 1.63%	42 = 68.85%	18 = 29.5%

WORKING CAPACITY FEMALES—(14 years and over).

	Unimpaired.	Impaired.	Totally Incapacitated.	Total No.
Stadium I.				
Before treatment	...	1 = 1.53%	59 = 90.76%	5 = 7.69%
After treatment	...	53 = 81.53%	11 = 16.92%	1 = 1.53%
Stadium II.				
Before treatment	...	—	80 = 84.21%	15 = 15.78%
After treatment	...	63 = 66.31%	26 = 27.36%	6 = 6.31%
Stadium III.				
Before treatment	...	—	11 = 29.72%	26 = 70.27%
After treatment	...	6 = 16.21%	22 = 59.45%	9 = 24.32%

WORKING CAPACITY (CHILDREN).

	Unimpaired.	Impaired.	Totally Incapacitated.	Total No.
Stadium I.				
Before treatment	...	11 = 5.78%	173 = 91.05%	6 = 3.15%
After treatment	...	167 = 87.87%	23 = 12.11%	—
Stadium II.				
Before treatment	...	6 = 6.31%	72 = 75.78%	17 = 17.89%
After treatment	...	57 = 60%	35 = 36.84%	3 = 3.15%
Stadium III.				
Before treatment	...	—	23 = 62.16%	14 = 37.83%
After treatment	...	11 = 29.72%	21 = 56.75%	5 = 13.51%

It should be understood concerning this and other tables relating to the working capacity, weight and sputum results of patients just leaving the Sanatoria, that the figures refer to a period immediately following treatment under ideal conditions, and are therefore recorded at a most advantageous time.

GAIN OR LOSS IN WEIGHT.

Males.

		Gained.	Lost.	Stationary.	Total No.
Stage I.	6	—	7
Stage II.	34	13	47
Stage III.	42	17	61

Females.

	Total No.	Lost Weight.	Gain of Stationary.	Gain of 1-5.	Gain of 6-10.	Gain of 11-15.	Gain of 16-20.	Gain of over 20lbs.
Stage I.	...	65	3	1	25	23	6	5
Stage II.	...	95	9	—	28	30	23	1
Stage III.	...	37	4	6	15	4	5	1

Children.

	Total No.	Lost Weight.	Gain of Stationary.	Gain of 1-5.	Gain of 6-10.	Gain of 11-15.	Gain of 16-20.	Gain of over 20lbs.
Stage I.	...	190	14	5	89	55	21	2
Stage II.	...	95	1	2	43	36	8	5
Stage III.	...	37	2	2	18	13	—	1

SPUTUM.

In the following tables the sputum results at the commencement and termination of Sanatorium treatment are indicated. They are arranged according to the sex and stage of the disease.

Males.

	T.B. +	T.B. -	No Sputum.	Total No.
Stage I.	$2=28.57\%$	$1=14.28\%$	$4=57.14\%$	7
Before treatment	...	$1=14.28\%$	$2=28.57\%$	
After treatment	...	50%	$4=57.14\%$	
Stage II.	$26=55.31\%$	$15=31.91\%$	$6=12.76\%$	47
Before treatment	...	$20=42.55\%$	$17=36.17\%$	
After treatment	...	23.07%	$10=21.27\%$	
Stage III.	$51=83.6\%$	$10=16.39\%$	—	61
Before treatment	...	$50=81.96\%$	$11=18.03\%$	
After treatment	...	1.96%	—	

Females.

	T.B. +	T.B. -	No Sputum.	Total No.
Stage I.	$5=7.69\%$	$20=30.77\%$	$40=61.53\%$	65
Before treatment	...	$4=6.15\%$	$17=26.15\%$	
After treatment	...	20%	$44=67.69\%$	
Stage II.	$16=16.84\%$	$32=33.68\%$	$47=49.47\%$	95
Before treatment	...	$11=11.57\%$	$27=28.42\%$	
After treatment	...	31.25%	$57=60\%$	
Stage III.	$18=48.64\%$	$11=29.72\%$	$8=21.62\%$	37
Before treatment	...	$13=35.13\%$	$13=35.13\%$	
After treatment	...	27.77%	$11=29.72\%$	

Children.

	T.B. +	T.B. -	No Sputum.	Total No.
Stage I.				
Before treatment	2 = 1.05%	13 = 6.84%	175 = 92.1%	190
After treatment	—	4 = 2.10%	186 = 97.89%	
Bacillary loss	... 100%			
Stage II.				
Before treatment	5 = 5.26%	9 = 9.47%	81 = 85.26%	95
After treatment	2 = 2.10%	3 = 3.15%	90 = 94.73%	
Bacillary loss	... 60%			
Stage III.				
Before treatment	5 = 13.51%	6 = 16.21%	26 = 70.27%	37
After treatment	5 = 13.51%	5 = 13.51%	27 = 72.97%	
Bacillary loss	... Nil.			

SUBSEQUENT TREATMENT RECOMMENDED AFTER SANATORIUM.

	Total No.	Recommended for Dispensary Treatment.	Recommended for Domiciliary Treatment.	Returning to their own Doctor.
Women :—				
Stadium I. ...	65	65	—	—
Stadium II. ...	95	82	6	7
Stadium III. ...	37	19	12	6
Children :—				
Stadium I. ...	190	182	—	8
Stadium II. ...	95	90	—	5
Stadium III. ...	37	27	—	10

LABORATORY REPORT.

During the year, 3,003 specimens of sputa were examined in the laboratory at the Sanatorium; and in addition there were 1,891 examinations of urine and other specimens.

The sputum of all patients who expectorate is primarily examined after staining alone, and if a negative result is obtained it is then treated by a concentration process and is examined weekly by this method when sputum is present, until tubercle bacilli are demonstrated, or until treatment terminates.

In the succeeding tables are shown the results obtained after using the concentration method described by Ellerman and Erlandsen.

No. of Sputa dealt with.	T.B. not found after staining once by Ziehl Neelsen method alone.	T.B. found after treatment by the Ellerman and Erlandsen method.
2,795	2,795	784 or 28.05%

The following figures deal with the same series of examinations and give in detail the number of sedimentation processes which were undertaken in each case before tubercle bacilli were demonstrated.

Tubercle Bacilli demonstrated by the Ellerman and Erlandsen method.

After first examination	... 421
After two examinations	... 182
After three examinations	... 91
After four examinations	... 54
After five examinations	... 36

SCHOOL WORK.

Since the last report, 465 children have passed through the school, 290 boys and 175 girls, the daily attendance being about 55 children, varying in ages from $4\frac{1}{2}$ years to 14 years.

One of the chief features of the year was the three months' spent indoors during the winter. This was very beneficial to the school work, especially the handwork side, as it was utterly impossible to get much handwork done during the winter months while we have been out of doors.

Painting and drawing have greatly improved during the indoor period, as owing to the unruly winds this work was greatly impeded out-of-doors through the difficulty of trying to keep the papers and books on the desks.

The children also took more interest in their work, because they were able to see the result of their efforts fastened on the walls, and this formed a great stimulus for them to put forth more effort, especially as only the best work was allowed to adorn the walls.

Toy making now claims a very important position on the time table. This occupation was commenced this last winter and the boys are most keenly interested in it. In most cases they design and plan out their own models and this gives great scope in developing their individuality and creative powers.

A number of interesting toys have been made, including birds, animals, and Dutch figures, etc. While the boys are doing this work, the girls are chiefly engaged in sewing, knitting or rafia hat making. The girls have all been taught how to make jerseys and jumpers in various styles and patterns, and most of the girls have made a jumper, either for themselves or their sisters during their stay in the Sanatorium.

One afternoon each week is entirely devoted to Free work, and during this time the children choose the work they would like to do the best. Some show great keenness for drawing and painting, while others choose their rafia work, and quite a good number prefer to have an arithmetic test card.

As much individual training is given as possible and by this method the brighter and more intelligent children advance above the others, e.g., if a boy or girl shows a particular aptitude for mathematics, he or she would receive extra attention during this period; thus sometimes a boy of 8 years or 9 years old would be so advanced that he would be able to compete with boys of 13 and 14 years old.

Drill, games, and country dancing still form interesting subjects on the curriculum, and are greatly enjoyed by both the girls and the boys.

The library has rapidly grown. This is greatly owing to the kindness of Miss Bartleet and Mr. Lucas, who sent us quite a number of interesting volumes, chiefly stories of adventure which appeal so strongly to the boys.

The Peace Celebration which was held at Yardley Road Sanatorium last July, through the kindness of Mr. Cadbury, was greatly enjoyed by the children, and they were delighted to take part in the entertainment by giving a display of country dancing, including the Maypole—this day will always remain to them as a “red letter day.”

REPORT ON WEST HEATH HOSPITAL.

BY DR. G. C. SOUTTER, MEDICAL SUPERINTENDENT.

Total number of beds in the Institution, 144. Number of beds reserved for phthisis, 104. Forty beds are in use for scarlet fever amongst the residents in the immediate neighbourhood of the hospital.

During this year (1919) a new pavilion accommodating 24 patients has been provided by the Red Cross Society, and is the addition to the number of beds available during the present year over 1918.

The hospital is situated 6½ miles from the centre of the city, and stands 590 feet above sea level.

The total number of cases admitted in 1919 was 329.

The total number remaining at end of 1918 was 57.

The total number treated was 386 (including 302 males and 84 females).

The death-rate was 21·5 per cent., and this is to be read in connection with the fact that it is primarily a hospital for advanced cases, and is intended to separate the highly infectious acute cases from the healthy civilian population outside (from the public health point of view) in addition to bringing those capable of improvement into a satisfactory condition.

AGE AND SEX DISTRIBUTION.

The age and sex distribution of the cases were as follows:—

	MALES.						FEMALES.					
	Under 18 yrs.	18-25 yrs.	26-35 yrs.	36-45 yrs.	46-55 yrs.	Over 55 yrs.	Under 18 yrs.	18-25 yrs.	26-35 yrs.	36-45 yrs.	46-55 yrs.	Over 55 yrs.
Patients under treatment in 1918	...	1	4	5	15	11	5	—	5	3	5	3
Patients admitted 1919	10	31	84	93	33	10	7	12	21	18	7	3
Patients discharged 1919, Completed treatment:												
(a) Improved ...	6	13	35	40	21	6	4	4	6	5	2	1
(b) Not improved ...	1	3	7	10	6	—	1	2	4	4	3	—
Left before completion of treatment, 1919	...	—	4	8	10	3	—	—	3	3	2	—
Died, 1919	...	3	4	19	22	9	4	1	6	5	2	—
Remaining end of 1919	1	11	20	26	15	5	1	2	6	4	3	2

NUMBER OF DAYS IN HOSPITAL.

Average number of days in hospital : 124 for males ; 100 for females.

Patients are usually recommended for an initial period of twelve weeks, and extensions indefinitely as required, but only about 33 per cent. of the patients avail themselves of this. The great majority seem to think that having passed through the recommended period that they should return to their usual home surroundings, although they have not received their maximum improvement, and despite all kinds of persuasion to induce them to remain.

		MEN.	WOMEN.
Average gain	... ... ... ... ...	7.3 lbs.	9.2 lbs.
Gained weight	... ... ... ... ...	121	22
Stationary	... ... ... ... ...	27	14
Lost weight	... ... ... ... ...	25	8
Maximum gain	... ... ... ... ...	23 lbs. (112 days)	27 lbs. (84 days).
20 men gained over 14 lbs.		6 women gained over 14 lbs.	
60 men gained over 7 lbs.		12 women gained over 7 lbs.	

SPUTUM EXAMINATIONS.

197 admissions (T.B. +)			
Discharged	... {	112 T.B. +	
		18 T.B. -	
		2 no sputum.	
89 admissions (T.B. -)			
Discharged	... {	30 T.B. +	
		16 T.B. -	
43 admissions (no sputum)			
Discharged	... {	12 (no sputum).	
		5 T.B. +	
		4 T.B. -	

DISCIPLINE.

Generally speaking, this has been satisfactory, and the ex-soldiers and pensioners who form the bulk of the patients are now settling down to a more or less routine civilian hospital life better than they did in 1918. Only one man was dismissed from hospital in 1919.

TREATMENT.

The open-air (exclusively) treatment is not suitable to many of the advanced cases which we receive here, and conditions have to be modified to suit their extremely low resistance.

The wards originally planned for infectious fever cases are of the closed variety, and are ventilated as freely as the condition of the patients from time to time allows.

Open-air methods during the more seasonable part of the year are carried out and explained, but in the severe weather more comfort is required to be supplied to these advanced cases than would be allowed in a Sanatorium for early cases.

Graduated exercise and graduated labour is employed extensively according to the physical capacity of the individuals, especially for those who are to carry on some light work outside on discharge.

Recreation (outdoor and indoor) also helps to keep the mind clear and flexible, and counteracts a good deal of the brooding over their ailment and condition which is so noticeable in the chronic disease.

Otherwise the treatment is mostly palliative, symptoms being dealt with as they occur.

Tuberculin is not used for these advanced type of cases here.

SOCIAL SIDE.

A social organiser has been appointed to organise and arrange the social activities of the patients while undergoing treatment for prolonged periods.

A recreation room for the men has been provided which includes a billiard room ; a general meeting room which serves as a library, a room for indoor games (cards and parlour games) ; gramaphones and a piano have been provided by the Lord Mayor for the musical entertainments arranged by the social organiser. Outdoor games for men include bowling, croquet, and badminton.

A recreation room and concert room have been built for the women patients, and is extensively used by them, and a small stage has been fixed up for sketches and use of the parties of entertainers, who come along each fortnight in the winter and monthly in the summer time.

Tournaments in billiards and bowling are arranged periodically, and whist drives and card competitions for which prizes are granted weekly, and these always prove to be keenly contested, and it all helps to alleviate the tendency to despondency which occurs so often in patients undergoing treatment for prolonged periods of time.

REPORT ON SALTERLEY GRANGE SANATORIUM.

BY DR. E. G. GLOVER, MEDICAL SUPERINTENDENT.

I beg to submit a report on the working of this Sanatorium for the year ending December 31st, 1919.

ADMISSIONS.

During the twelve calendar months there were admitted 424 cases, of whom 297 were males and 127 females, and all of whom, excepting 78 (19 males and 59 females), were insured.

CLASSIFICATION OF PATIENTS.

Group (Turban-Gerhardt).	Males.	Females.	Total.
I. (slight) ...	101	66	167
II. (mod. advanced) ...	170	51	221
III. (advanced) ...	26	10	36
	297	127	424

During the past six years the distribution of female cases has remained very steady. In the group-distribution of male cases, there is still to be observed the effects of the transference (commenced in 1915) to this Sanatorium of moderately advanced cases previously sent to Yardley Road Sanatorium. There was some improvement in this respect in 1917, when the early cases increased by 20 per cent., and the advanced cases decreased by 40 per cent.; in 1918 the improvement was more notable, and it is satisfactory to find that in 1919 the percentage of early cases is still maintained. Even so the presence of a large number of Group II. cases does not indicate that the function of this Sanatorium as an institution for early and favourable cases is not being exercised fully. The main disadvantage of the Turban Grouping is that, being purely anatomical, it takes little or no cognisance of the degree of activity of any anatomical lesion; the consequence is that with careful examination many patients must perforce be grouped as moderately advanced, who, by a more cursory examination would be placed in Group I. This is more clearly shown in the tables of sputum examination (see below); the total percentage of cases admitted without sputum or with a negative sputum is as high as, if not higher than the percentage found in many Sanatoria who affect to exclude all save early cases. A moderately advanced case with a persistently negative sputum is, however, in a better state of health than an early case with a persistently positive sputum, and from this point of view the Sanatorium is dealing for all practical purposes with all the favourable cases which can be recommended treatment.

DISMISSALS.

During the same period, 412 patients were discharged, of whom 284 were males and 128 females.

DURATION OF TREATMENT.

Duration in Months.	Under 1.	1-2.	2-3.	3-4.	4-5.	5-6.	Over 6.	Total.
Males ...	28	121	74	20	22	6	13	284
Females ...	13	37	20	25	15	8	10	128
Total ...	41	158	94	45	37	14	23	412

The average duration of treatment in days was 74.8 as compared with 84 in 1918, 94 in 1917, 86 in 1916, 84 in 1915 and 73 in 1914. This is the lowest average since 1914, and accounts for the increase in the number of admissions.

IMMEDIATE RESULTS OF TREATMENT.

It is a mistake to look for permanent results at this stage of the disease. It is quite true that many cases are admitted which make rapid strides towards recovery, and which, as far as one can judge, are, at the end of five months treatment, permanently arrested, and indeed some few show on admission that a good deal of progress has been made in the few weeks which elapse between

the Dispensary recommendation and actual admission. In spite of these facts, the results are more or less fluid and after dismissal there are wide fluctuations, which may show almost immediately or only after the lapse of time.

WEIGHT.

Increase in weight is the earliest indication of general improvement in health, and the greater the proportion of moderately advanced cases capable of improvement, the higher will be the average increase in weight. Some early cases do not show such striking increases, and with them a stationary weight is of less significance than with the more advanced. Loss of weight however is of some significance, and a comparison of the percentage losing weight with the percentage whose general condition has deteriorated shows a rough balance.

INCREASE IN WEIGHT.

Males	{	Group I. ...	79	{	Group I. ...	56	{
"	"	II. ...	140	"	II. ...	44	"
"	"	III. ...	20	"	III. ...	6	106

Percentage increased 83.7; 1918, 90.8; 1917, 92.3; 1916, 92.5; 1915, 93.1; 1914, 94.7.

WEIGHT STATIONARY.

Males, 28; Females, 12. Total, 40.

Percentage stationary, 9.7; 1918, 6.6; 1917, 2.8; 1916, 2.6; 1915, 2.4; 1914, 1.8.

WEIGHT LOST.

Males, 17; Females, 10. Total 27.

Percentage losing, 6.5; 1918, 3.5; 1917, 5.5; 1916, 4.8; 1915, 5.4; 1914, 3.4

It is of interest to continue the investigation, fully reported last year, into the effect of reduction of diet during the war years on average gain of weight. Reduction of diet was effected to a slight extent in 1915, again slightly in 1916, whilst, in 1918, it was reduced to the lowest compatible with efficient treatment of tuberculosis.

The following figures show the average weekly net increase of weight for the past six years.

Year.	Average increase in ounces per week.		
	Males.	Females.	
1914	... 11.82	... 10.84	
1915	... 13.97	... 10.34	
1916	... 11.21	... 8.22	
1917	... 10.47	... 8.73	
1918	... 10.39	... 9.25	
1919	... 9.97	... 9.79	

The figures for female cases are by far the most important, because there are very few corrections to be taken into account. The type of female case admitted and the group distribution have been practically identical throughout the six years, whereas with males there has been a distinct variation in type. As suggested last year, the decrease in the general average gain for women, though slight, is quite definite and the rise in 1919, when diet restrictions were removed to a great extent, is very notable. It will be observed however, that a tendency to rise is shown in 1918 when the diet was at its lowest, but this is explained by the relatively large proportion staying two to four months when the maximum increase of weight is expected and the small number staying less than one month, when the average increase is comparatively slight.

With the male statistics it is difficult to come to accurate conclusions; the figures for 1919 when diet was increased, being actually the lowest of all the six years. Moreover the drop after 1915 does not represent the actual diminution of weight-gaining capacity, because from that year onwards the admission of moderately advanced cases increased and this should have had the effect of raising the average gain of weight, provided, as was the case until last year, they were also of a favourable type. Again, referring to the statistics of duration of treatment, it will be found that there is a very great decrease in the numbers staying over two months in 1919. Indeed the number staying under two months is the highest since the opening of the Sanatorium.

It may be definitely affirmed that reduction in diet has had a slight, but definite effect on the average gain of weight, but that it has not reduced this gain to an extent when the interests of the patients might be said to suffer. The quarterly weight averages for 1919 confirmed an observation made last year as to seasonal variations in weight. The maximum increase in weight is made during the third quarter of each year (July, August and September), during the fourth quarter it is still high, but rather less than before, during the first quarter there is a distinct drop, whilst from March to June it is invariably at the lowest ebb.

WORKING CAPACITY.

MALES.					FEMALES.				
Group.		A*	B	C	Group.		A	B	C
I.	Admission Dismissal	4 84	91 10	— 1	I.	Admission Dismissal	5 43	57 20	3 2
II.	Admission Dismissal	4 97	139 60	20 6	II.	Admission Dismissal	4 37	47 15	2 1
III.	Admission Dismissal	— 7	21 12	5 7	III.	Admission Dismissal	— —	6 3	4 7
All Cases	Admission Dismissal	8 188	251 82	25 14	All Cases	Admission Dismissal	9 80	110 38	9 10

* A—Unimpaired. B—Impaired. C—Incapacitated.

Only 4 per cent. of those admitted were in a fit state to carry on their occupation and even then with a reasonable expectation of breakdown in the immediate future; on discharge 65 per cent. were capable of following their usual occupations, most of them for at least 12-18 months, and a considerable number for a much longer period; the figures for 1918 were 10 per cent. and 72 per cent. respectively.

On admission 87 per cent. had an impaired working capacity, i.e., although fit for a certain amount of work, they were unable to follow out their ordinary occupation at full time; on discharge, this proportion had dropped to 29 per cent. This last figure does not represent the total improvement, inasmuch as several incapacitated cases who had improved greatly are included amongst the "impaired" groups on discharge. 8 per cent. were completely incapacitated on admission, whilst on dismissal only 5 per cent. were so incapacitated. Compared with last year, there is a distinct drop in the numbers admitted in good health and an increase in the numbers in very poor health; the numbers of "impaired" capacity are much the same as before.

The problem of the 29 per cent. whose working capacity on discharge is still "impaired" is the root-problem of effective treatment. A few will be able to gain normal working capacity by the expedient of taking up an occupation 50 per cent. lighter in grade; the great majority, however, are faced with the dilemma of either following their usual occupation at the expense of their health, or of taking proper care of their health at the expense of their economic security, which in itself constitutes a vicious circle. There is little scope for the "half-timer" in industry.

It is proper to point out at this stage that the "Colony" system which is being established at considerable expense to the community is going to do much ineffective and unnecessary work through disregarding the situation which is suggested above. Most of these institutions make a condition of admission to the colony that the case should either be arrested or quiescent and non-bacillary. But these are just the cases which, with a little care, would get on very well at home, even at their old employment; whereas the 29 per cent. referred to above are exactly the cases which might recover after one to two years stay in a colony and which are almost certain to lose ground when they return home to their usual occupation.

RESULTS OF SPUTUM EXAMINATIONS.

Group		T.B. +		T.B. -		No SPUTUM.	
		Males.	Females.	Males.	Females.	Males.	Females.
I.	Admission	13	4	66	21	16	40
	Dismissal	3	1	53	9	39	55
II.	Admission	65	11	78	16	20	26
	Dismissal	28	5	82	8	53	40
III.	Admission	23	7	3	3	—	—
	Dismissal	19	8	1	1	6	1
All Cases	Admission	101	22	147	40	36	66
	Dismissal	50	14	136	18	98	96

The noteworthy features of the table are as follows :—

$$\text{Percentage of all admissions with TB + (males)} = 35\cdot5\% \quad \text{(females)} = 17\cdot1\% \quad = 29\cdot8\%$$

$$\text{Percentage of TB + cases becoming TB - or O (males)} = 50\cdot5\% \quad \text{(females)} = 36\cdot4\% \quad = 48\%$$

The following table affords some standard of comparison :—

		Males.	Females.	Total.
1915	Bacillary Loss	... ...	46%	42·1%
1916	"	... ...	40·9%	60%
1917	"	... ...	41·7%	75%
1918	"	... ...	62·8%	34·2%
1919	"	... ...	50·5%	36·4%

The percentage of bacillary loss amongst females is rather higher than in 1918 and much lower than in 1916 and 1917, but as has been already suggested the figures for 1916 and 1917 were abnormally high, and in general the numbers involved are so small that no great stress can be laid on them. The loss for different female groups is much the same as in former years.

With male patients on the other hand there is a distinct drop in the bacillary loss under that of 1918, whilst, compared with other years it is still high, and, had those bacillary cases been excluded who defaulted within a few days, this percentage would have risen to 54 per cent. It was shown in last year's report that the high percentage of bacillary loss was materially influenced by the numbers of ex-soldiers admitted who had made, owing perhaps to the rapid improvement in hygienic conditions, a more than usually rapid improvement in lung condition. During this year, the type of ex-service case admitted has corresponded more closely with the usual civilian type of case. This, together with a general increase in the severity of the disease, probably accounts for the drop in bacillary loss. During the year 24 cases (Males : Group I., 7; Group II., 11; Group III., —; Females, Group I., 5; Group II., 1; Group III., —) were admitted with negative sputum who had previously given a positive find; last year the figures were 34 (Males 29, Females 5). The difference it will be seen is quite definite and affects male cases only.

In spite of this drop there has still been noted, as in previous years, a proportion of cases who have a negative sputum on admission in spite of a quite recent positive find at the tuberculosis centre, the patients in question, having, in the interim, carried out no special form of treatment, save, in some few instances, staying away from work.

CONDITION OF DISEASE ON DISMISSAL.

LUNG CONDITION.	MALES.				FEMALES.				ALL CASES.			
	I.	II.	III.	Total.	I.	II.	III.	Total.				
Much improved	49	15	—	64	21	7	—	28	92
Improved	36	119	14	169	32	36	4	72	241
<i>In statu quo</i>	10	28	8	46	12	10	4	26	72
Worse	—	—	4	4	—	2	2	2	6
Died	—	—	1	—	—	—	—	—	1

The above categories require some explanation. The term "much improved" is strictly reserved for those who are either presumably arrested at the time of dismissal or are likely to become so arrested within a few months after. The grouping is adopted in preference to an "arrested group," an account of the necessity to qualify all such judgments with the term "presumably." For instance, of 92 noted as much improved, 36 (males Group I., 23; Females Group I., 13) were almost certainly arrested on dismissal; this gives a proportion of 8 per cent. as compared with 10 per cent. in 1918. The majority of those included as "much improved" were from the outset non-bacillary cases, but, whether or not, a very strict standard was adopted; in addition to considerations of health and working capacity, freedom from subjective symptoms, etc., each case had to show complete absence of any catarrhal signs and in addition, evidence that lung function had returned round the once active area. If any unequivocal signs of active foci were present, the case was classed under the grouping "improved," in spite of proof that the original areas of activity had greatly diminished. The improved group therefore includes many who were very considerably better than on admission, but of whom it could not be said with any certainty that they would become arrested within six months; it also includes many whose improvement was only slight and probably impermanent.

The following table shows clearly the effect of duration of stay on results of treatment.

DURATION IN MONTHS.	MALES.						FEMALES.							
	1.	1-2.	2-3.	3-4.	4-5.	5-6.	Over 6	1.	1-2.	2-3.	3-4.	4-5.	5-6.	Over 6
Much improved	—	28	18	11	3	—	4	1	4	2	11	5	3	2
Improved	...	2	95	43	10	11	4	—	26	20	13	7	3	3
<i>In statu quo</i>	...	26	13	5	1	—	1	—	13	7	2	2	1	1
Worse	...	—	1	1	—	—	1	1	—	—	1	—	—	1
Died	...	—	—	1	—	—	—	—	—	—	—	—	—	—

CORRECTION FOR ERROR IN DIAGNOSIS.

Although the immediate results of treatment are not quite so striking as in former years, they are nevertheless well above the average for Sanatoria dealing with selected cases, so much so that it is necessary to meet in advance the criticism that since the majority of cases are non-bacillary (the percentage is actually 70·2 per cent.), the statistics may have been inflated by the inclusion of non-tuberculosis patients or of patients whose lesion was healed at the time of admission.

In dealing with non-bacillary cases the method adopted last year will be followed, i.e., comparing the signs in those where the diagnosis, although not bacteriological, cannot be disputed with the signs in bacillary cases and other non-bacillary cases respectively. It is not unfair to claim the following as types concerning whose diagnosis there can be little or no dispute, viz., cases with a reliable previous history of bacilli in the sputum, advanced cases, re-admissions, and cases which have passed through a period of probation in the observation wards.

	MALES.			FEMALES.		
	I.	II.	III.	I.	II.	III.
T.B + on admission	13	65	23
T.B + before admission (corrected)	...	7	11	—	5	1
Observation cases (corrected)	...	8	3	—	4	—
Re-admissions (corrected)	...	4	15	—	12	14
Advanced cases (corrected)	...	—	—	3	—	3
Total	...	32	94	26	25	26
						10

It will be seen that with 152 males (53 per cent. of all admissions) the diagnosis was beyond all possibility of dispute, yet 51 of these 152 (33 per cent.) had negative sputum; the corresponding figures for female patients are 61 (47 per cent. of all admissions) and 39 with negative sputa (51 per cent.). The figures for male cases are identical with those of 1918, whilst for female patients the present figures are higher than usual. Working out the percentage of "indisputables" for each group we have as follows:—Males, Group I., 33 per cent.; Group II., 51 per cent.; Group III., 100 per cent.; Females, Group I., 38 per cent.; Group II., 49 per cent.; Group III., 100 per cent.

Now as far as physical signs are concerned, it is curious to observe that amongst those classified as "indisputable" is a series of observation cases which had been diagnosed only after some weeks observation in a ward, yet whose signs as far as extent goes were the most meagre of all. At any rate they were much more difficult to detect than the great majority of cases which, for the purpose of the present argument, have not been included amongst the "indisputable." Again, exactly one-half of the moderately advanced cases were indisputably active, yet there was no means of differentiation between the signs in these and in the remainder.

So far then as the ordinary means of diagnosis go, it is not possible to differentiate between the results in one group and in the other, and the tables given previously may with safety be compared with similar tables in the reports of other Sanatoria. But the argument does not end there; from observations made during the year it was concluded that at least 16 cases (Males, Group I., 8; Group II., 2; Females, Group I., 6) were arrested on admission, and due correction should be made for this in the "much improved" column. The observations on which these figures were based were made chiefly during specific tuberculin treatment, but also as the result of physical examination, and the question arises whether general testing after admission of non-bacillary cases with meagre signs might not have excluded a larger proportion. It is a complex problem because even cases previously bacillary, but on admission non-bacillary might occasionally be excluded by the same process.

CLASSIFICATION.

Whether this is feasible or not, it is abundantly clear that purely anatomical classification is misleading and should be either modified or discarded; not only is it misleading as to the degree and type of infection, but it is too rigid for purposes of after-records. Judging from the areas of

active disease, for example, it is common to find concerning Group II., cases in which, a year after treatment, the active signs are such as would have suggested a Group I. classification, had the case been then examined for the first time or by a fresh examiner. A main classification as to bacillary findings with sub-divisions as to catarrhal signs would probably be of much more value, and as a matter of actual practice in all careful reports the results in bacillary cases are always distinct from those in non-bacillary cases. A drawback to this method is that the classification could be effected satisfactorily only after a certain amount of treatment either in a Sanatorium or elsewhere.

Judging by the results of treatment, the non-bacillary case is the real Group I. case, the bacillary case, which becomes negative during primary treatment is the real Group II. case, and the bacillary case whose sputum remains positive during treatment is the real Group III. case. The exceptions to this rough rule are usually obvious by reason of very extensive physical signs, but even then fewer mistakes would be made by including these in bacteriological groupings than by classifying them in accordance with the sartorial method.

TREATMENT.

Of 412 cases discharged, 230 (161 males and 69 females) received tuberculin treatment, i.e., 55 per cent. of the total as compared with 69 per cent. in 1918. Excluding those who left shortly after admission, the percentage treated thus is as follows:—

MALES.			FEMALES.		
Group I.	Group II.	Group III.	Group I.	Group II.	Group III.
1919 70%	44%	34%	45%	61%	—
Total 1919 ...	Group I. 60%	Group II. 48%	Group III. 25%		
Total 1918 ...	" 82%	" 80%	" 45%		

As far as Tuberculin is concerned the function of the Sanatorium is to guide the patient through the very difficult and sensitive early stages of a course. Immediate results should not be looked for, except perhaps in cases of low, chronic pyrexia, or where the symptomatology suggests chronic absorption. It is interesting to note, nevertheless, that many sensitive cases, once they have been carried beyond the reacting point, will, during subsequent Dispensary Treatment, go through a prolonged and severe course of treatment without very much discomfort.

A few casual investigations were made into the value of Sodium Morrhuate in more advanced cases who had not received tuberculin, but it is impossible to come to any opinion, favourable or otherwise, on the strength of uncontrolled investigations of selected cases. As far as an impression is admissible, that impression was not encouraging. As an agent for the reduction of some symptoms, cough in particular, the preparation seems to have its uses, but not invariably so or even in a majority of cases; carelessly given it increases the identical symptoms. As a specific curative agent, the drug has still to stand the test of after-history records.

TUBERCULOSIS AND THE MILK SUPPLY.

REPORT BY MR. JOHN MALCOLM, F.R.C.V.S., VETERINARY SUPERINTENDENT.

I have pleasure in submitting herewith a short report on the work done last year in connection with the inspection of cows and cowsheds in the city, and on the efforts to minimise the degree of tubercle infection in the Birmingham milk supply.

INSPECTION OF COWS AND COWSHEDS IN THE CITY.

During the year 1919 the inspection of cows and cowsheds has been systematically carried out, and 1,950 visits of inspection have been paid by the Veterinary Officers. The numbers of cowkeepers, dairy farms, sheds and cows in the city on 31st December, 1919, were as follows:—

Cowkeepers.	Temporary Cowkeepers.	Dairy Farms.	Registered Sheds.	Sheds temporarily registered.	Cows.
131	12	181	331	38	2,110

At the end of the year there were still no dairy cows being kept on 34 city dairy farms. During the year three farmers have commenced cowkeeping, and have had their sheds temporarily registered pending suitable alterations to existing sheds or construction of new sheds, and one dairyman who had been registered but had discontinued cowkeeping recommenced with two cows. Eight farmers have discontinued cowkeeping; in two of these cases this was owing to their farms having been purchased by the Town Planning Committee. During the year six dairy farms have changed hands.

Three cows were found suffering from tuberculosis with emaciation and one cow with clinical tuberculosis: all four cows were subsequently slaughtered. Forty-seven cows were found affected with catarrhal mastitis, and the milk from these cows was prohibited from sale temporarily or permanently according to the case.

One outbreak of cow-pox occurred affecting six dairy cows, which were isolated from the non-affected cows and their milk pasteurized before use. The health and condition of the cows in the city dairies during the year has been on the whole good. It was, however, found necessary in several cases to give notice in

writing to farmers to have their cows and cowsheds cleaned, and to have the manure removed from close proximity to their cowshed doors.

TUBERCULOSIS AND THE MILK SUPPLY.

The effort to reduce the amount of tubercle infection in the milk sold in the city has been continued on the lines of previous years, viz. :-

- (a) The detection of infected milk.
 - (b) The detection of cows with tuberculosis of the udder or others giving infected milk.
 - (c) the eradication of tuberculosis from dairy herds supplying milk to the city.

INFECTED MILKS.

	Farms in City Area.		Farms Outside.		Railway Stations.	Total
	Mixed.	Individual.	Mixed.	Individual.		
Free ...	... —	16	—	—	35	51
Infected ...	— —	2	—	2	2	6
	— —	—	—	—	—	—
	— —	18	—	2	37	57
	— —	—	—	—	—	—

Individual samples of milk were collected from 20 cows, four of which proved to be affected with tuberculosis of the udder, two of these cows being found in city dairies and two in outside dairies. They were immediately isolated from the dairy herds, their milk was prohibited from sale and they were subsequently slaughtered. From this it is shown that from the whole of the cows in the city area only two were found to be giving tubercle infected milk, and in the 37 samples of milk of approximately 300 cows from outside dairies taken from churns at the railway stations only two cows proved to be giving tubercle infected milk.

Compensation to the amount of £11 has been paid to two dairy farmers for the slaughter of two of the infected cows.

ERADICATION OF TUBERCULOSIS FROM DAIRY HERDS

During the year 22 herds were being tested, one of which in the previous year had discontinued and now commences again, and at the end of the year 21 herds, numbering 576 cows, were free and one herd numbering 20 cows was in suspension waiting the decision of the owner as to whether he would continue with the testing of his herd. The testing of five herds numbering 78 cows has been discontinued on account of the difficulty the owners have had in purchasing tubercle free cows.

COW TESTING.

The testing of the above herds has been carried out half-yearly. From the tabulated list it will be seen that 1,078 cows were tested during the year, of which 991 passed and 87 failed to pass.

No.	Cows Tested.	Passed.	Failed	(Reactors and Doubtful).
1	18	18	...	—
2	31	22	...	9
3	14	13	...	1
4	21	21	...	—
5	44	42	...	2
6	8	8	...	—
7	61	30	...	31
8	130	121	...	9
9	39	38	...	1
10	199	195	...	4
11	15	13	...	2
12	42	40	...	2
13	72	72	...	—
14	—	—	...	—
15	77	77	...	—
16	24	24	...	—
17	71	69	...	2
18	17	17	...	—
19	27	24	...	3
20	26	25	...	1
21	25	19	...	6
22	117	103	...	14
<hr/>		<hr/>	<hr/>	<hr/>
1,078		991	...	87
<hr/>		<hr/>	<hr/>	<hr/>

The cows which failed to pass were in most cases cows which were purchased subject to their passing the tuberculin test, or cows in herds tested for the first time. The newly-purchased cows which failed to pass the test were returned to the vendors. The doubtful reactors in tested herds were isolated and again subjected to the test a month later. About 70 per cent. of these doubtful reactors eventually passed.

The newly-purchased and cows tested for the first time numbered 189. Of these 42, or 22.22 per cent., re-reacted and eight, or 4.23 per cent., were doubtful, i.e., 26.45 per cent. failed to pass the test, as compared with 31.06 per cent. last year.

COST INCURRED BY TESTING HERDS.

The testing of the herds has continued to be carried out, partly by the Corporation Veterinary Officers and partly by local Veterinary Surgeons on behalf of the Corporation. The cost of this work during the year was £133 5s., of which £27 was for Tuberculin and £106 5s. for veterinary fees and expenses. In 1918 the cost was £81 14s. 4d., and in 1917 £133 17s. 10d.

INFANT MORTALITY.

The year 1919 showed a lower infant mortality rate than any previous year on record, viz., 84 per 1,000 births. In view of the rapid increase in the birth-rate during the latter half of 1919, it is possible that the above rate is rather understated, but all the figures in the following table have been calculated on the same method, and whether the infant mortality rate should be considered as 84 per 1,000 babies born or (say) 90 per 1,000 babies born does not invalidate the statement that the rate was the lowest on record.

The rates in previous years were as follows:—

	Birmingham.	England and Wales.
1871-75 (Old City Area)	182	153
1876-80	164	145
1881-85	161	139
1886-90	173	145
1891-95	176	151
1896-1900	199	156
1901-05 (Extended City)	157	138
1906-10	131	117
1911-15	126	110
1916	104	91
1917	101	96
1918	99	97
1919	84	89

That the great decline in infant mortality has not been due to the absence of hot weather during recent years is shown in the mortality rates for Birmingham, when the deaths from Diarrhoea and Enteritis are subtracted from the total deaths.

This is shown in the following table :—

Year		Total Infant Mortality Rate.	Infant Mortality less Diarrhea and Enteritis.
1897	(Old City Area)	214	147
1898	...	190	135
1899	...	193	130
1900	...	199	151
1901	...	188	141
1902	...	157	133
1903	...	158	126
1904	...	195	145
1905	...	155	124
1906	(Present Area)	157	110
1907	...	133	117
1908	...	130	105
1909	...	121	106
1910	...	115	99
1911	...	150	103
1912	...	111	102
1913	...	129	100
1914	...	122	100
1915	...	118	95
1916	...	104	90
1917	...	101	89
1918	...	99	84
1919	...	84	76

The causes of death and the ages at which they occurred are shown in the following table :—

INFANTILE MORTALITY DURING THE YEAR 1919.

Deaths from stated Causes in Weeks and Months under One Year of Age.

MORTALITY RATE AMONGST ILLEGITIMATE INFANTS.

This was at the rate of 177 per 1,000 illegitimate births, as compared with 84 amongst the total births.

The following table shows the distribution of the mortality amongst illegitimate births in various parts of the city :—

	"Illegitimate" Births.	"Illegitimate" Deaths.	Death-Rate per 1,000 Illegitimate Births.
Central Wards	352	75	213
Middle Wards	293	42	143
Outer Wards	154	28	182
Not located	59	7	119
City	858	152	177

The causes of death of the illegitimate infants are set out in the next statement. If the figures are compared with those for legitimate infants, it will be seen that the greatest excess in the mortality is in diseases like Diarrhoea and Debility which are so largely due to artificial feeding, and in Syphilis.

ILLEGITIMATE INFANT MORTALITY DURING THE YEAR 1919.

Deaths from stated Causes in Weeks and Months under One Year of Age.

Cause of Death.	Weeks.				Total under 1 m'nth	Months.				Total Deaths under 1 year.
	0.	1.	2.	3.		1.	.	6.	9.	
Measles	—	—	—	—	—	—	—	—	—	—
Scarlet Fever	—	—	—	—	—	—	—	—	—	—
Whooping Cough	—	—	—	—	—	—	—	1	1	2
Diphtheria and Croup	—	—	—	—	—	—	—	—	—	—
Tuberculous Meningitis	—	—	—	—	—	—	1	—	—	1
Abdominal Tuberculosis	—	—	—	—	—	—	—	—	—	—
Other Tuberculous Diseases ...	1	—	—	—	1	—	—	—	—	1
Rickets	—	—	—	—	—	—	—	—	—	—
Syphilis	—	—	—	—	—	8	2	1	—	11
Cerebro-Spinal Fever ...	—	—	—	—	—	—	—	—	—	—
Meningitis (not Tuberculous) ...	—	—	—	—	—	—	—	—	1	1
Convulsions	—	—	—	—	1	1	2	—	1	5
Bronchitis	—	—	—	—	—	—	2	1	4	7
Pneumonia (all forms)	—	—	—	—	—	2	6	3	3	14
Gastritis	—	—	—	—	—	—	1	—	—	1
Diarrhoea, Enteritis, etc. ...	—	—	—	—	—	6	16	6	5	33
Congenital Malformations ...	1	1	1	—	3	1	1	—	—	5
Premature Birth	17	4	3	1	25	3	—	—	—	28
Atrophy, Debility and Marasmus ...	3	4	—	—	7	15	2	1	—	25
Atelectasis	1	—	2	—	3	—	—	—	—	3
Injury at Birth	—	—	—	—	—	—	—	—	—	—
Neglect (under 3 months) ...	2	—	—	—	2	—	—	—	—	2
Suffocation (Overlying)	2	—	—	—	2	1	—	—	1	4
Other causes	2	—	—	1	3	2	2	1	1	9
All causes	29	9	6	3	47	42	32	18	13	152

ILLEGITIMATE BIRTHS.

The following particulars were obtained as a result of inquiry into the illegitimate births :—

There were 858 illegitimate babies born in Birmingham, of whom no less than 260, or 30 per cent., were born in Workhouse Infirmarys. Of these 858 33 were non-resident, and were transferred to the district of residence, leaving 825 who belonged to Birmingham. In addition, there were 7 babies whose births were reported outside the city, and who were brought into the city, making a total of 832.

Of the 832 babies, 16 had been removed before a visit was paid, and no trace of them could be found. Twenty-four others were removed soon after the first visit.

Of the remaining 792, 86 were removed to some known address away from Birmingham shortly after the birth.

This leaves 706 babies, 77 of whom died shortly after birth and 63 during the course of the year.

In 618 instances the babies were visited and more or less complete information was volunteered with regard to them.

In 77 cases the father and mother were living together as man and wife, and in some cases had been doing so for many years. There are a considerable number of such cases in Birmingham. In 33 instances the parents married after the child was born.

In the other 508 instances in which information was obtainable there were 142 cases in which an affiliation order was obtained, and in 218 no order was made. In the remaining 148 cases, either no information was available, or the child, or mother, or father had died.

Illegitimacy is not confined to unmarried persons. The parity of the child is shown in the following statement :—

(a) Mother single (not living with father).	(b) Mother married (not living with father).
1st child in 275 instances.	1st child in 7 instances.
2nd " " 30 "	2nd " " 10 "
3rd " " 5 "	3rd " " 5 "
4th " " 2 "	4th " " 5 "
7th " " 3 "	5th, 6th, 7th, or 8th child in 8 "
No inform- ation in 57 "	No inform- ation in 9 "
Total 372	Total 44
(c) Mother widow (not living with father).	(d) Father and mother living together.
1st child in 6 instances.	1st child in 8 instances.
2nd " " 6 "	2nd " " 15 "
3rd " " 4 "	3rd " " 9 "
4th " " 12 "	4th " " 10 "
5th to 10th child in 14 "	5th to 11th child in 22 "
No inform- ation in 14 "	No inform- ation in 13 "
Total 56	Total 77

STILLBIRTHS.

During the year 744 Stillbirths were notified. 63 of these were under 7 months gestation and therefore need not have been notified under the Notification of Births Act. An enquiry was made with regard to these births, and particulars were obtained relating to them, of which the following figures are of interest.

The enquiry relates to 744 reported cases, but in 21 no information was obtained, leaving 723. The age of the mothers was as follows :—

Under 20	...	...	...	...	...	5
20 and under 25	...	...	...	...	...	122
25 "	30	...	...	...	...	174
30 "	35	...	...	...	...	167
35 "	40	...	...	...	...	130
40 and over	...	...	...	...	...	86
Not recorded	...	...	...	...	...	39

In 662 instances the baby was legitimate ; in 31 it was illegitimate ; and in 30 instances no particulars were obtained.

The period of gestation was as follows :— The duration of labour was :—

9 months in 360 instances.	More than 24 hours in 116 instances.
8 months in 100 instances.	12 to 24 hours in 166 instances.
7 months in 159 instances.	6 to 12 hours in 163 instances.
Less than 7 months in 63 instances.	Less than 6 hours in 186 instances.
Not recorded in 41 instances.	Not recorded in 92 instances.

The presentation was :—

Vertex in 442 instances.
Breech in 77 instances.
Transverse in 20 instances.
Footling in 65 instances.
Cord in 8 instances.
Not recorded in 111 instances.

The condition on presentation was as follows :—

Macerated in 223 instances.
Not macerated in 401 instances.
Not recorded in 99 instances.

The previous history of the mother was :—

PREVIOUS LABOURS.

Previous stillbirths or miscarriages.

0 in 491 instances.
1 " 148 "
2 " 49 "
3 " 12 "
4 " 9 "
5 " 7 "
6 " 1 instance.
More than 6 in 1 instance.
Not recorded in 5 instances.

Previous live births.

0 in 252 instances.
1 " 129 "
2 " 76 "
3 " 71 "
4 " 40 "
5 " 34 "
6 " 34 "
7 " 27 "
8 " 15 "
9 " 21 "

Previous infant deaths in first year.

0 in 574 instances.
1 " 89 "
2 " 30 "
3 " 8 "
4 " 9 "
More than 4 in 8 instances.
Not recorded in 5 instances.

10 " 8 "
11 " 5 "
12 " 2 "

More than 12 in 4 instances.

Not recorded in 5 instances.

In 200 instances the mothers were employed industrially ; in 496 they were occupied at home ; and in 27 instances particulars were not obtained.

Of the women employed industrially, 42 were at work for less than three months while in pregnancy ; 70 were at work for three months and less than six months ; 87 were at work for six months or more ; 1 particulars not obtained.

The size of the house in which the still-births occurred is shown in the following figures :—

- House with 3 rooms or less in 246 instances.
- House with 4 rooms in 100 instances.
- House with 5 rooms in 92 instances.
- House with 6 rooms in 203 instances.
- House with 7 rooms in 17 instances.
- House with 8 rooms in 13 instances.
- House with over 8 rooms in 4 instances.
- Not recorded in 48 instances.

Of the 723 cases a midwife was in attendance in 278 instances, a doctor in 333, a midwife and doctor in 104, while particulars were not obtained in 8 instances.

The distribution of the still-births over the wards of the city is shown in the appended statement. It will be seen that there is very little difference between the healthy and unhealthy wards.

STILLBIRTHS.

Number of Stillbirths per 1,000 Live Births (1919).

Least healthy Wards :	St. Mary's	34	Average, 38.
	Duddeston and Nechells	...	...	...	...	38
	St. Bartholomew's	...	...	...	...	47
	St. Paul's ...	...	...	...	...	35
Next in order :	St. Martin's and Deritend	37	Average, 41.
	Market Hall	...	...	...	...	46
	Ladywood ...	...	...	...	...	44
	Aston	...	...	...	...	40
Third in order :	Rotton Park	30	Average, 39.
	All Saints' ...	...	...	...	...	45
	Washwood Heath...	...	...	...	...	33
	Lozells	...	...	...	...	45
Fourth in order :	Saltley	44	Average, 38.
	Soho	...	...	...	...	38
	Sparkbrook	...	...	...	...	42
	Edgbaston	...	...	...	...	35
Healthiest Suburban Wards :	Small Heath	39	Average, 30.
	Acock's Green	...	...	...	...	47
	Handsworth	...	...	...	...	40
	Balsall Heath	...	...	...	...	44
	Sandwell	...	...	...	...	37
	Erdington North	...	...	...	...	33
	Northfield ...	...	...	...	...	25
	Yardley	29	
	Selly Oak	...	...	...	...	21
	King's Norton	...	...	...	...	42
	Erdington South	...	...	...	...	41
	Harborne	...	...	...	...	31
	Moseley and King's Heath	...	...	...	...	22
	Sparkhill	...	...	...	...	25

CHILD MORTALITY. (Ages 1-4 inclusive.)

The total deaths each year since 1912 at this age group are given below :—

1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
1649	1545	1519	1362	1275	1121	1390	1008

The causes of death in 1919 and the two previous years (for children 1-4 years) were as follows :—

Cause.	No. of Deaths.		
	1917	1918	1919
(1) Measles	246	51	133
(2) Whooping Cough	84	171	38
(3) Diphtheria	62	65	54
(4) Scarlet Fever	6	4	17
(5) Tuberculosis, all forms	107	79	67
(6) Bronchitis and Pneumonia	294	480	390
(7) Diarrhoea and Enteritis	63	83	48
(8) Burns	42	30	23
(9) All other causes	217	427	238

It will be noted that a number of different causes of death play an important part in the mortality among these children. These diseases attacking them are largely of an infectious nature and are particularly fatal to young children.

APPROXIMATE TOTAL LOSS OF LIFE UP TO 5 YEARS OF AGE.

Abortions and miscarriages (estimated)	...	...	2,600
Still-births	...	...	744
Deaths under one year	...	...	1,630
Deaths one year to five years	...	...	1,008
Total	...	...	<u>5,982</u>

MATERNITY AND CHILD WELFARE CENTRES.

A list of the centres in use is appended :—

Municipal Centres.	Voluntary Organisations.
Berkeley Road, Hay Mills	Floodgate Street
Bloomsbury Street	Selly Oak
Farm Street	Stirchley and Cotteridge
Hope Street	Staniforth Street (Settlement)
Lansdowne Street	Sparkhill and Greet
Latimer Street	Handsworth
Lichfield Road	Harborne
St. Vincent Street	Northfield
Short Heath Road, Erdington	
Smith Street	
Stratford Road	
Washwood Heath Road	
Wright Street	

An approximate idea of the work carried out in connection with these centres is indicated in the table on the next page :—

MATERNITY AND CHILD WELFARE—YEAR 1919.

In connection with the Maternity and Child Welfare Centres a Dental Clinic was established at Broad Street in May, 1918. During 1918 the attendances of mothers and children at this Clinic numbered 293 for the eight months, and in 1919 they numbered 641 in the twelve months.

PUERPERAL FEVER.

The cases and deaths from Puerperal Fever in Birmingham are set out below for each year since 1912 :—

	Cases.	Deaths.
1912	78	27
1913	112	44
1914	149	33
1915	161	35
1916	170	31
1917	97	26
1918	92	29
1919	105	23

Of the 105 cases in 1919, 68 followed the birth of a full time child and 37 a premature birth or abortion.

The parity was :—

	Cases.	Deaths.	Fatality.
1st child ...	41	4	10%
2nd or 3rd child ...	21	5	24%
4th or 5th „	8	1	12%
6th or over „	13	3	23%
No information ...	22	10	
	105	23	

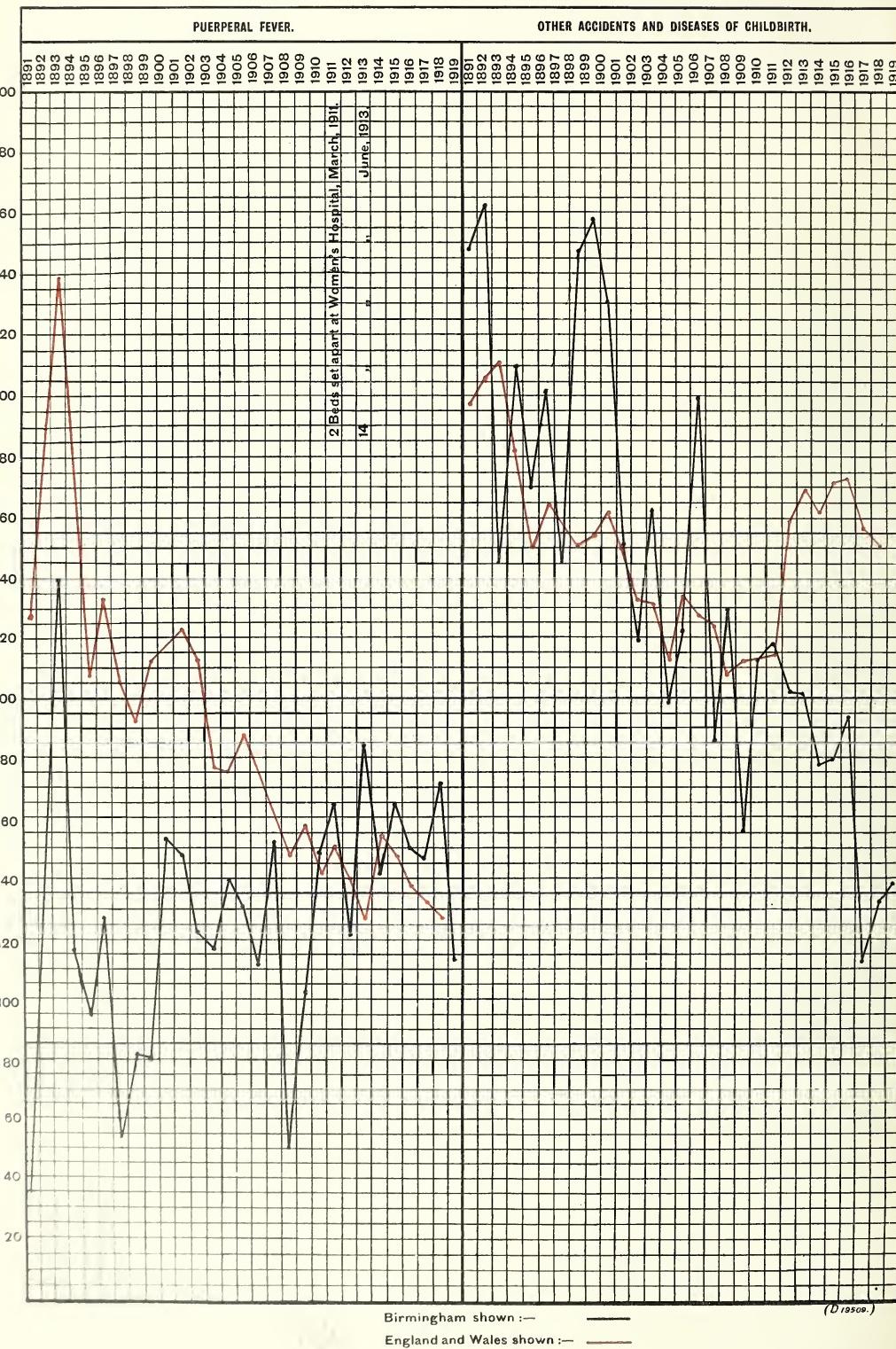
The record for each ward for the years 1912—1919, both inclusive, is next set out. The number of cases and deaths here recorded is 964 cases and 248 deaths. Allowing for the comparatively small figures, the case incidence is very equally distributed, and, except for the central wards, so also is the mortality. That is to say, social position does not make much difference in the incidence or in the fatality.

PUERPERAL FEVER, 1912-1919.

		Case-rate per 100,000 Births.	Death-rate per 100,000 Births.																												
Least healthy Wards :	<table border="0"> <tr> <td>St. Mary's ...</td> <td>...</td> <td>602</td> <td>63</td> </tr> <tr> <td>Duddeston and Nechells ...</td> <td>...</td> <td>702</td> <td>102</td> </tr> <tr> <td>St. Bartholomew's ...</td> <td>...</td> <td>460</td> <td>556</td> </tr> <tr> <td>St. Paul's ...</td> <td>...</td> <td>530</td> <td>100</td> </tr> <tr> <td>St. Martin's and Deritend ...</td> <td>...</td> <td>485</td> <td>72</td> </tr> </table>	St. Mary's	602	63	Duddeston and Nechells	702	102	St. Bartholomew's	460	556	St. Paul's	530	100	St. Martin's and Deritend	485	72										
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Northfield	443	74																												

CHART NO. 4.

MORTALITY PER 100,000 BIRTHS.



Birmingham shown: —

England and Wales shown: —

(Disscr.)

			Case-rate per 100,000 Births.	Death-rate per 100,000 Births.
	Yardley	...	945	218
	Selly Oak	...	388	224
	King's Norton	...	385	148
Healthiest Suburban Wards :	Erdington South	...	530	212
	Harborne	...	453	123
	Moseley and King's Heath	...	638	243
	Sparkhill	...	673	134

The age of incidence among these cases and deaths was as follows :—

Age.	Cases.	Deaths.	Fatality.
15—25	220	51	23%
25—35	512	115	22%
35—45	226	80	35%
45—55	6	2	33%

The Chart on the opposite page shows both for Birmingham and for England and Wales the mortality from (*a*) Puerperal Fever; (*b*) other accidents and diseases of child birth. It will be apparent from the English curve (red) that Puerperal Fever has materially diminished in morbidity since 1871. Birmingham (black curve) has, however, not shown a similar decline. On the other hand, there has been a very decided reduction in the rate of deaths from other accidents of childbirth in Birmingham, while in England and Wales there has been an actual increase since 1912.

When it is remembered that considerable attention has been paid to the prevention of this disease, both in the direction of training and specially instructing doctors and midwives, and in providing hospital accommodation for cases, it is not satisfactory that the rate of mortality has remained undiminished when the disease is obviously preventable.

MIDWIVES ACTS, 1902 AND 1918.

During the year 1919, 181 midwives notified their intention to practise midwifery ; of these 11 reside without the city.

Of the 181 midwives, 80 were qualified by examination, and 101 by reason of being in bona-fide practice prior to 1902.

Of the 181 midwives, 4 acted as maternity nurses, and 7 were only temporarily employed in the city.

The midwives attended 13,299 births, 69 per cent. of the total births.

Qualified midwives attended 5,479 births.

Bona-fide midwives attended 7,820 births.

3 midwives attended over 300 births.

6	"	"	between 250 and 300 births.
8	"	"	200 "
16	"	"	150 "
16	"	"	100 "
46	"	"	50 "
86	"	"	less than 50 births.

Four midwives have died during the year; four gave up practice owing to ill health or old age; and one left the city to take up other work.

The midwives had to call in a doctor in 1,400 instances, equal to one in nine confinements.

The chief reasons for requiring medical help were as follows :—

For Mother.		For Child.	
Delayed or difficult labour	...	368	Ophthalmia
Hæmorrhage	...	110	Debility
Abnormal presentation	...	96	Malformation
Adherent placenta	...	60	Other causes
Lacerated perineum	...	181	
Other causes	...	215	

In addition, midwives notified the death of the mother before medical assistance could be obtained in 6 instances and the death of the child in 36 instances.

During the year one midwife appeared before the Public Health Committee, and was dealt with as follows:—

December 12th, 1919. Midwife No. 10,093. Charged with neglect in case of Puerperal Fever. The Committee decided to report this midwife to the Central Midwives' Board, with the result that, after considering the case, they decided to take no action.

OPHTHALMIA NEONATORUM.

During the year 282 cases were notified. Of these:—

- (1) Eleven died before treatment ceased.
- (2) Nine left the district (three of these were traced, and notice was sent to the Medical Officer of Health of the area to which they had gone).
- (3) Nine had eyes partially or completely damaged. Particulars relating to these nine cases are given below:—

Position in Family.	Attendance at Birth.	Day of disease in which treatment began.	Treated by.	Condition of eyes at close of treatment.	
1.	6th	Midwife	2nd day	Eye Hospital	Both eyes very defective.
2.	1st	Doctor	3rd day	Eye Hospital	Right eye very defective. Left normal.
3.	10th	Midwife	Same day	Eye Hospital	Right eye normal. Left totally blind.
4.	1st	Midwife	5th day	Doctor	Right eye totally blind. Left slightly defective.
5.	3rd	Midwife	30th day	Eye Hospital	Right eye totally blind. Left normal.
6.	2nd	Midwife	Same day	Eye Hospital	Right eye almost blind. Left very defective.
7.	1st	Doctor	Same day	Maternity Hospital	Right eye normal. Left very defective.
8.	3rd	Midwife	Same day	Eye Hospital	Right eye normal. Left totally blind.
9.	3rd	Midwife	15th day	Eye Hospital	Right eye normal. Left slightly defective.

The results of these nine cases may be summarised as follows:—

One eye slightly defective, other normal	...	1
One eye very defective, other normal	...	2
Both eyes very defective	...	2
One eye totally blind, other normal	...	3
One eye totally blind (other defective)	...	1

VENEREAL DISEASES.

The Public Health Committee approached the University of Birmingham with a view to establishing a post-graduate course of lectures on Venereal Diseases for medical practitioners in the city. This was given during January, February, and March. The Dean of the Medical Faculty reports that the lectures were much appreciated by those able to go through the course, the claims of professional duties preventing a larger number attending the clinical sections of the course. A contribution of £50 was made to the University by the Public Health Committee towards the expenses incurred.

The following statistics in regard to the treatment of Venereal Diseases during the year 1919 have been prepared for me by Dr. Wood.

It will be seen that, speaking generally, there has been a considerable increase in the number of cases coming for treatment. It is somewhat difficult to say whether the numbers now reached are about the maximum. If one takes the figures for 1919, there is some suggestion that the maximum was reached during the third quarter.

I think there can be no doubt that the cases of Gonorrhœa coming up for treatment are not as numerous as they ought to be from our general knowledge of the disease. The fact that 1,399 new cases amongst males were treated, as compared with 187 amongst females, indicates a disproportion which does not exist. This is probably due to the fact that Gonorrhœa in the female is a disease which frequently does not give rise to inconvenience, and passes more or less unnoticed.

I consider it to be very unsatisfactory that nearly one-half of the patients coming for treatment should cease attendance before the completion of their treatment. Doubtless some of those who cease attendance have had a sufficient treatment, but in a very large number of the cases there is every probability that the infection has not ceased.

During the year a circular was issued by the Ministry of Health, suggesting to each of the Clinics the tests which should be applied before considering a patient completely treated. This, doubtless, will be of great assistance in maintaining a proper standard.

The cases of Gonorrhœa were far more numerous in the male than in the female, as stated above. On the other hand the women who came up for treatment for Syphilis numbered 459, as against 187 suffering from Gonorrhœa.

VENEREAL DISEASE TREATMENT, 1919.

(NOTE.—Figures for Skin and Urinary Hospital relate only to Birmingham residents; figures for other Centres relate to all cases in attendance. 88 per cent. of all cases at the Women's Hospital and 80 per cent. of all cases at the General Hospital are Birmingham residents.)

A.—GONORRHœA.

	General Hospital,		Skin and Urinary Hospital,		Women's Hospital,		Total for 1919,		Total for 1918,	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Number of new cases ...	1069	124	330	26	—	37	1399	187	685	118
Total number of attendances ...	7407	942	4518	369	—	220	11925	1531	6010	817
Aggregate number of in-patient days ...	62	212	36	—	—	91	98	303	101	233
Discharged after completion of treatment ...	127	2	39	3	—	13	166	18	58	5
Ceased attendance before completion of treatment	702	91	238	21	—	8	940	120	270	27
Number under treatment or observation, Jan. 1, 1919 ...	263	45	113	16	—	12	376	73	40	104
Number under treatment or observation, Jan. 1, 1920 ...	498	76	166	18	—	16	664	110	376	73

B.—SYPHILIS.

	General Hospital,		Skin and Urinary Hospital,		Women's Hospital,		Total for 1919,		Total for 1918,	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Number of new cases ...	543	333	239	55	—	71	782	459	603	418
Total number of attendances ...	7019	4346	3414	1206	—	1329	10433	6881	7268	4599
Aggregate number of in-patient days ...	123	552	167	171	—	149	290	872	187	500
Discharged after completion of treatment ...	2	0	3	1	—	0	5	1	2	—
Ceased attendance before completion of treatment	403	261	182	40	—	18	585	319	245	124
Number of doses of Salvarsan substitutes ...	5878		1589		906		8373		4971	
Number under treatment or observation, Jan. 1, 1919 ...	277	185	103	33	—	57	380	275	66	424
Number under treatment or observation, Jan. 1, 1920 ...	414	255	157	47	—	108	571	410	380	275

Gonorrhœa. It will be seen that new cases show 100 per cent. increase for males and 50 per cent. increase for females, as compared with 1918, while the total attendances are up 100 per cent. The number discharged cured equals 184, as against 63, and the number under treatment at the beginning of the year is 774, as against 449. Of the patients, 1,060, or roughly one out of two, ceased attendance before completion of treatment.

Syphilis. New cases show an increase of 30 per cent. for males and an increase of 10 per cent. for females, as compared with 1918. The total attendances are up 40 per cent., and the doses of Salvarsan substitutes administered have increased 68 per cent. The number under treatment at the beginning of the year was 981, as against 655, and 904 patients, or roughly one out of two, ceased attendance before completion of treatment.

The facilities for treatment are set out below:—

(a) *For males.* The General Hospital provides five clinics weekly, staffed by nine medical officers. The Skin and Urinary Hospital provides two evening clinics, staffed by two medical officers. In addition to these, attendances are made at other times by patients for treatment with injections of mercury and Salvarsan substitutes, and for urethral irrigation. A whole-time orderly is present for this purpose at each Centre.

(b) *For females.* The General Hospital provides three clinics weekly, staffed by two medical officers (both men). The Skin and Urinary Hospital provides one evening clinic, with a woman medical officer, and the Women's Hospital one clinic, with two medical officers (one woman).

The times and places of treatment are noted below:—

General Hospital.—

Tuesday mornings, from 10 to 12.	}	For Men.
Monday, Tuesday, Wednesday, Friday, from 3 to 7.		
Tuesday mornings, from 10 to 12.	}	For Women.
Tuesdays and Fridays, from 3 to 7.		

Skin and Urinary Hospital.—

Tuesday evenings, from 6 to 7-30.	}	For Men.
Friday evenings, from 6 to 7-30.		
Thursday evenings, from 5-30 to 7.		For Women.

Women's Hospital, Upper Priory.—

Thursdays, 1-30 to 4	For Married Women.
----------------------	-----------------	--------------------

The above particulars show some modification from those obtaining early in 1919.

Pathological Laboratories. Approved laboratories for the examination of specimens for gonococci and for spirochetes and for the Wassermann reaction have been recognised at the University, the General Hospital, and Dr. Assinder's, and for the examination for gonococci and spirochetes at the Skin and Urinary Hospital.

Notices. During the year enamelled iron notices have been purchased to the number of 1,460 for exhibition in public urinals and the urinals attached to various factories in the City, of which 970 had been fixed by December 31st. Since the above figure has been got out a further number have been fixed, so that it is correct to say that about 1,300 of these notices have been placed in factories and other places.

Your Committee also gave instructions for a large poster to be erected outside the Public Health Department, bearing the following notice:—

CITY OF BIRMINGHAM.
EFFICIENCY, HEALTH, PROSPERITY,
REQUIRE THE CONTROL OF
VENEREAL DISEASES.

FREE CLINICS.

CALL OR WRITE:—
Box O. 18,
Public Health Department,
Council House,
Birmingham.

The cost of the Venereal Diseases scheme during 1919, was as follows:—

(A) *Expenses of Centres.*

	£ s. d.	£ s. d.
Salaries of Medical Staff	1,095 19 8	
Salaries of Nurses and Orderlies	286 18 11	
Rent, Rates, etc.	297 10 10	
Drugs	3,336 0 8	
In-patient treatment (1,548 days at 2/2·7)	172 14 6	
Equipment and Apparatus	345 4 0	
Alterations to Buildings, etc.	571 5 6	
Other Expenses	520 2 6	
	<hr/>	<hr/>
	£6,625 16 7	

(B) *Payments to Pathological Laboratories.*

Dr. Assinder	726 16 6
General Hospital	588 7 6
University	141 3 3
Skin Hospital	45 3 0
	<hr/>
	1,501 10 3

(C) *Publicity Expenses.*

Grant to National Council for combating Venereal Diseases	250 0 0
Notice-plates (provision)	131 4 3
Notice-plates (fixing)	38 11 6
Copying, Stationery, etc.	26 5 0
	<hr/>
	446 0 9
Total	<hr/>
	£8,573 7 7

CANCER.

There were 935 deaths registered during 1919 as due to cancer. This is equal to one in every thirteen deaths occurring during the year. Of persons twenty years of age and over the deaths during 1919 represented one in every nine deaths.

The deaths numbered 430 among males and 505 among females.

The deaths since 1911 were as follows:—

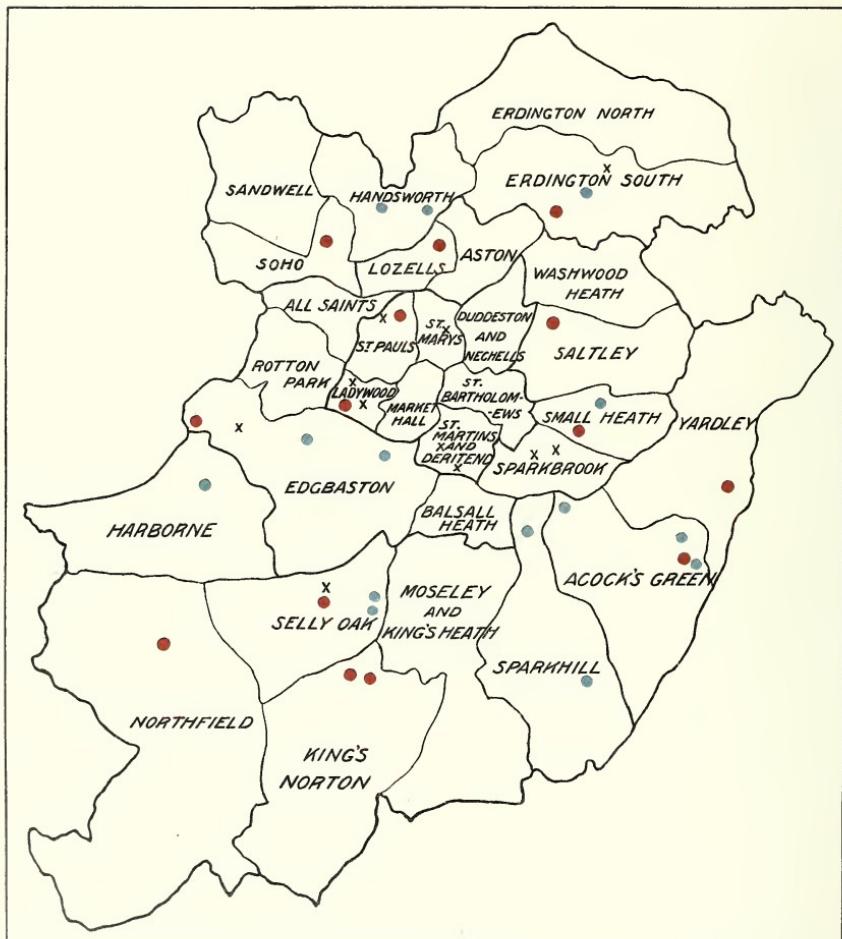
Year	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
Total deaths	748	791	893	773	885	897	912	883	935

The site of the cancer was recorded as shown in the table on the next page.

DEATHS FROM CANCER IN 1919.

Ages.	Mouth.		Stomach, Liver, etc.		Peritoneum, bladder, etc.		Female Organs of Reproduction.		Breast.		Skin.		Other Organs.		Total.		
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Total.	Total.	
Under 1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
1 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
5 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
10 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
15 —	—	—	—	—	—	—	—	—	1	1	—	—	—	—	2	2	
20 —	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	3	
25 —	—	1	1	1	2	1	5	6	—	1	1	—	—	1	1	2	
35 —	4	—	4	14	7	21	3	4	7	—	21	21	—	12	—	8	
45 —	12	2	14	33	27	60	18	18	36	—	32	32	—	27	27	1	24
55 —	22	4	26	55	25	80	31	25	56	—	33	33	—	23	23	1	2
65 —	22	2	24	42	35	77	36	39	75	—	20	20	—	19	19	3	2
75 —	3	2	5	7	25	32	13	22	35	—	5	5	—	11	11	1	2
85 —	2	—	2	—	4	4	1	1	2	—	—	—	—	1	1	1	2
All Ages	65	11	76	152	125	277	104	114	218	—	113	113	—	94	94	6	8

DISTRIBUTION OF CASES IN BIRMINGHAM
DURING 1919.



- CEREBRO SPINAL FEVER.
- POLIOMYELITIS ANT. AC.
- ✗ ENCEPHALITIS LETHARGICA.

CEREBRO-SPINAL FEVER.

Fourteen cases of this disease were reported during 1919, as against sixteen cases in 1918 and twenty-nine cases each in 1917 and 1916. Of these fourteen cases nine died and five recovered.

The age and sex distribution of the cases is shown thus:—

	0-1 yr.	1-5 yrs.	5-10 yrs.	10-15 yrs.	15-20 yrs.	20-25 yrs.	25-30 yrs.	45 yrs.
Male —	1	2	—	1	1	—	—	—
Female —	2	—	2	2	2	—	2	1

Further particulars and results are shown in the following table:—

No. of case.	Date of notification.	M. or F.	Age.	Whether verified by bacteriological examination.		Result.
				Yes	No examination	
1	Jan. 7	F.	29	Yes	H	Died 10 days after onset.
2	Mar. 22	F.	46	Yes	H	Complete recovery.
3	" 31	F.	2	No examination	...	Died 22 days after onset.
4	April 23	F.	14	Yes	H	Died 26 days after onset.
5	" 25	F.	15	Yes	H	Complete recovery.
6	May 1	M.	20	Yes	N.H.	Died 73 days after onset.
7	" 17	F.	26	Yes	H	Complete recovery.
8	June 3	M.	6	No information	...	Developed into chronic condition and died 10 months after onset.
9	Aug. 26	F.	2	Yes	H	Died 36 days after onset.
10	Sept. 10	M.	15	Yes	H	Died 8 days after onset.
11	Nov. 5	M.	3	Yes	...	Died 2 days after onset.
12	" 6	M.	8	Yes	H	Died 5 days after onset.
13	" 16	F.	17	Doubtful	H	Complete recovery.
14	Dec. 26	F.	14	Yes	H	Complete recovery.

Cases marked H were treated in hospital, N.H. in Nursing Home, others at home.

Nine of the fourteen reported cases died, giving a total mortality of 64·3 per cent. as compared with 62·5 per cent. in 1918 and 72·4 per cent. in 1917. Of the eleven cases in which the diagnosis was confirmed by the bacteriological examination, seven died and four recovered, giving the verified cases a mortality of 63·6 per cent., as compared with 57 per cent. in 1918 and 61 per cent. in 1917.

The cases were treated as follows:—

					Cases.	Deaths.
General Hospital ... ... ... ...	...	...	...	...	4	2
Queen's Hospital ... ... ... ...	...	...	...	...	4	1
Children's Hospital ... ... ... ...	...	...	...	...	1	1
Selly Oak Infirmary ... ... ... ...	...	...	...	...	1	1
At Private Nursing Home ... ... ... ...	...	...	...	...	1	1
At their homes, by private practitioners	...	...	...	...	3	3

ACUTE ANTERIOR POLIOMYELITIS.

Fourteen cases of this disease were reported during 1919, and of these, six recovered completely, seven recovered but were left with some paralysis, and one died.

The cases for the last five years are shown as follows:—

		Cases Reported.	Completely Recovered.	Recovered with various paralyses left.	Deaths.
1915	8	5	2	...	1
1916	19	7	9	...	3
1917	11	6	3	...	2
1918	4	2	2	...	0
1919	14	6	7	...	1
	—	—	—	—	—
	56	26	23	—	7
	—	—	—	—	—

Of the twenty-three cases which recovered with some paralysis left, one has completely recovered since, four left the district and their present address is unknown and the remaining eighteen have been kept under observation, and in all cases they are receiving treatment of some kind and in some cases with marked improvement in their condition.

ACUTE ENCEPHALITIS LETHARGICA.

During the year 1919, eleven cases of this disease were reported. No comparison can be made with former years, as the disease only became notifiable on January 1st, 1919.

The cases, with their results are shown in the following table:—

Case.	Date of Notification.	M. or F.	Age.	Result.
1	Jan. 23	F.	17	H Died 14 days after onset.
2	" 24	F.	6	H Recovered physically well, but mentally deficient, and is cross, irritable and mischievous.
3	Feb. 3	M.	19	H Recovered, but left with paralysis of both legs, left arm and left face. Mental condition dull and apathetic.
4	" 3	M.	48	H Died 20 days after onset.
5	Mar. 11	M.	40	H Died 68 days after onset.
6	Aug. 26	M.	61	H Died 61 days after onset.
7	Sept. 15	F.	64	N.H. Died 26 days after onset.
8	Dec. 17	F.	15	H Recovered, but still sleepy and apathetic and with slight left facial paralysis.
9	" 22	F.	21	H Recovered, but is listless and drowsy and complains of difficulty in reading.
10	" 24	M.	15	H Recovered, but is strange in manner and has delusions.
11	" 30	M.	12	H Recovered, but is very irritable and hasty tempered. Some weakness in legs.

The Cases marked H were treated in hospital, NH Nursing Home and the others at home.

Of the above eleven cases, it will be seen that five died, giving a mortality rate of 45·5 per cent., and all who recovered have been left with more or less severe mental disturbances or actual paralysis. The cases were widely scattered and no connection was discovered between any of them nor could any evidence bearing on the infectivity of this disease be found.

BRONCHITIS AND PNEUMONIA.

During the year 1919 there were 1,062 deaths from influenza, which disease markedly increased the deaths from pneumonia, and from bronchitis.

The death-rates from the two latter diseases for each year since 1901 are set out below:—

DEATH-RATES FROM BRONCHITIS AND PNEUMONIA. BRONCHITIS. PNEUMONIA.

	Birmingham.	England and Wales.	Birmingham.	England and Wales.
1901	1·80	1·37	1·55	1·15
1902	1·64	1·32	1·46	1·41
1903	1·46	Average 1·62	1·32	Average 1·22
1904	1·76	1·25	1·49	1·28
1905	1·43	1·14	1·37	1·30
1906	1·38	1·04	1·32	1·22
1907	1·49	1·22	1·47	1·35
1908	1·47	Average 1·41	1·22	Average 1·19
1909	1·47	1·15	1·36	1·30
1910	1·24	0·96	1·15	1·11
1911	1·25	1·00	1·16	1·04
1912	1·26	1·08	1·20	1·02
1913	1·20	Average 1·27	1·13	Average 1·02
1914	1·26	1·08	1·24	1·08
1915	1·37	1·44	1·28	1·36
1916	1·29	1·25	1·13	1·06
1917	1·01	1·25	0·94	1·14
1918	1·22	1·23	1·46	1·65
1919	1·39	—	1·10	—

CONTAGIOUS DISEASES OF ANIMALS.

REPORT BY MR. JOHN MALCOLM, F.R.C.V.S., VETERINARY SUPERINTENDENT.

I herewith beg to submit a report respecting the work carried out by the Veterinary Department during the year 1919 in connection with the Scheduled Contagious Diseases of Animals in the City.

ANTHRAX.

During the year four cases of suspected anthrax were reported and dealt with. In each case microscopical examination of the blood was made by us, but fortunately none of these proved to be cases, the deaths being due to various other causes. The following table shows the number of cases in the City during the last four years : —

1916	1917	1918	1919
6	1	1	nil.

In the whole country during 1919 there were altogether 234 confirmed outbreaks of Anthrax as against 245 in 1918.

GLANDERS AND FARCY.

The city has again been entirely free from Glanders, there being no case or suspected case during 1919. It was not until after the introduction of the Glanders and Farcy Order of 1907, which empowered Local Authorities to slaughter diseased animals and pay compensation to the owners, that this disease was eradicated in the city, thus, whereas there were 100 cases in 1908, there has been no case since 1913, except one introduced from outside in 1916.

FOOT AND MOUTH DISEASE.

A number of animals from a neighbouring scheduled infected area were last August under a misapprehension received into the city by rail ; they were examined but none showed any indications of the disease. They were temporarily detained in isolation. Fortunately none developed the disease, and in due course all were sent to their destination.

There were 75 outbreaks of this disease in the country during the year, in connection with which 3,437 animals exposed to infection were slaughtered. While a number of these outbreaks could be regarded as secondary (inasmuch as their origin could be traced to preceding contiguous outbreaks), a considerable number were primary in the sense that no trace of the source of infection could be found. There is little doubt that in the majority, if not in all, the infection came directly or indirectly through infected material from the Continent where the disease has been very prevalent. Fortunately, through the energetic action of the Ministry of Agriculture, the whole of these outbreaks have been stamped out without any widespread extension of the disease from any outbreak.

RABIES.

Since the outbreak of rabies (the first confirmed case being found in Devon during August 1918) the disease continued to spread and during last year there were altogether 155 confirmed cases in the country (150 being in dogs and 5 in other animals) as against 108 confirmed cases in 1918 (98 in dogs and 10 in other animals).

A number of live dogs and a number of carcasses of dead dogs and cats were submitted to your Veterinary Inspectors for examination as suspicious of rabies. Ten suspected cases were reported to the Ministry of Agriculture by the police. Fortunately, although several dogs presented some suspicious symptoms, none in Birmingham proved to be affected with rabies. As Birmingham has remained free from this disease, the Muzzling and Movement Restrictions have not affected the city.

That there has been a real risk of the introduction of this disease into the city is unquestionable. In one case it was deemed necessary in the interests of the safety of the public and as a warning to others to take legal proceedings against the owner of a dog imported here under a special quarantine licence, for not keeping the animal under sufficient control and permitting it to stray in the streets.

Suitable isolation detention premises have been constructed at Holliday Street Wharf for detaining and isolating suspected dogs, until it could be conclusively demonstrated that they were free from rabies, and during the year a considerable number of suspected dogs have been so detained. The fact that none of the detained dogs developed rabies removed all fear or anxiety from the owners and others handling them.

PARASITIC MANGE.

The number of outbreaks of Mange in the city during the year was 57 affecting 126 horses, an increase of 53 affected horses over 1918 and 58 over 1917. Of the 126 cases four were in old and worn-out horses, one of which died and the other three were destroyed by their respective owners who did not consider them worth the cost of treatment. Seventy-three cases were cured and the remaining 53 cases were still under detention and treatment on the 31st December.

The granting of Movement Licences for the purpose of working infected horses under the Parasitic Mange (Amendment) Order, 1918, has been continued during the year to owners who urgently required their horses at work and who kept them thoroughly dressed to the satisfaction of the Veterinary Inspectors. This temporary measure has worked fairly well during the present strenuous times of horse labour shortage.

but in your Veterinary Inspector's opinion there is not now the same necessity for these licences as during wartime, and there is no question but that such licences tend in some cases to spread the disease, and in most cases to retard rather than to expedite its eradication.

SWINE FEVER.

During the year 104 dead pigs and many ailing ones were submitted for inspection. As a result of clinical and post-mortem examinations of these, swine fever was suspected in 19 herds, and these were duly reported to the Ministry of Agriculture. The Ministry gave instructions for the further investigation of these, and in 13 cases this was carried out by your Veterinary Inspector, the remaining cases being investigated by the Ministry's whole-time Veterinary Inspectors. Of the former, seven were ultimately proved to be cases of swine fever, and of the latter four, thus there were confirmed outbreaks in the city in 11 herds. In these herds the total number of pigs was 367. This shows a marked reduction in outbreaks in the city, there being 36 in 1916, 33 in 1917, 19 in 1918, and 11 in 1919, and, with the exception of 1919 is in accord with a general reduction of outbreaks in the country, viz.: from 4,331 in 1916 to 2,104 in 1917, and to 1,407 in 1918, but for 1919 the confirmed outbreaks in the country numbered 2,305. The latter increase is probably due to two factors (*a*) the greater movement in trucks and (*b*) to the temporary cessation of the anti-swine-fever serum treatment.

SHEEP SCAB.

There has been no case of sheep scab in the city since 1917.

TUBERCULOSIS.

Owing to the continued suspension of the Tuberculosis Order of the Ministry of Agriculture, only such cases as come under the Birmingham Dairy Regulations have been dealt with during the year. The cases dealt with and the work carried out under these Public Health Committee regulations have been reported on to that Committee.

OTHER SCHEDULED DISEASES.

No case or suspected case of such other scheduled diseases as Rinderpest, Epizootic-Lymphangitis, Bovine Pleuro-Pneumonia, etc., have been observed during the year.

NON-SCHEDULED CONTAGIOUS DISEASES.

There has again been a considerable number of cases of Johnne's disease, a form of contagious enteritis in cattle, of contagious abortion in cows, of cowpox, of bovine catarrhal mastitis, and of influenza and strangles in horses, all of which are very contagious and spread rapidly by infection when a case is introduced, but against none of which have any preventive measures been put in operation by the Ministry of Agriculture, although these and other non-scheduled diseases cause a heavy yearly loss to the stock-owning public.

On the whole the situation in the city regarding contagious diseases of animals during the year has been satisfactory, and the number of cases continues low for this district.

CITY HOSPITALS.

The following statement shows the number of patients* treated last year in the City Hospitals:—

	Scarlet Fever.	Diphtheria.
Under treatment at beginning of year	93	67
Admitted during the year	... 2,158	... 829
Discharged during the year	... 1,437	... 637
Died during the year	... 44	... 89
Remaining at end of year	... 770	... 170

* In a certain number of cases the diagnosis was revised in hospital.

In the first three quarters of the year the Scarlet Fever cases and Diphtheria cases requiring removal were unusually few in number and the wards at Little Bromwich Hospital and West Heath Hospital were quite sufficient to accommodate them. Indeed in the third quarter it was found possible to close the wards at West Heath, only those at Little Bromwich being then needed. But in the fourth quarter there was a very great increase in the cases, so great that not only the West Heath wards, but certain wards in the Witton Hospital had to be reopened and steps had to be taken to obtain possession of the Lodge Road Hospital, which had been used for two years as a War Pensions Hospital. It will be noticed that at the beginning of the year there were only 93 cases of Scarlet Fever in hospital, while at the end there were 770.

DISINFECTION.

The articles disinfected after infectious diseases were as follows:—Beds, 4,837; mattresses, 1,652; counterpanes, 2,416; blankets, 6,297; sheets, 2,976; bolsters, 2,449; pillows, 5,590; garments, 6,311; boots, 219; carpets, 467; and sundries, 5,112.

GENERAL SANITARY INSPECTORS' WORK.

No. of visits and revisits paid :—

Houses inspected under Housing Regulations	...	...	1,977
Revisits paid under Housing Regulations	...	...	535
Special Housing Enquiry (St. Mary's Ward)	...	...	6,689
Infectious Diseases	...	...	8,447
Nuisances or Complaints	...	...	28,576
Work ordered	...	...	36,590
Work in progress	...	...	9,843
Inspection of Dirty Courts	...	...	4,704
Manure Receptacles	...	...	2,059
Smoke or Water Tests	...	...	897
Tents, Vans and Sheds	...	...	94
Offensive Trades	...	...	78
Ice Cream Vendors	...	...	1,019
Calls on Owners or Agents	...	...	5,082
Other Purposes	...	...	4,789
Total	...	...	111,379

Nuisances, etc., reported :—

Houses to be disinfected after Scarlet Fever	...	2,431
" " " Diphtheria	...	881
" " " Typhoid Fever	...	37
Repairs to Houses	...	16,706
Houses to be cleansed	...	2,289
Houses to be provided with better ventilation	...	112
Houses to be provided with separate water supply	...	58
Cases of overcrowding to be remedied	...	40
Houses to be provided with Damp Courses	...	288
Water to be removed from Cellars	...	533
Spouting to be repaired or disconnected	...	7,185
Rain Water Cisterns to be disconnected or abolished	...	311
Ashpit Privies to be converted to Water Closets	...	108
Pan Privies to be converted to Water Closets	...	40
Privies and Closets to be limewashed	...	362
Water Closets to be repaired or reconstructed	...	5,831
Additional Water Closets to be provided	...	115
Ashplaces to be repaired or limewashed	...	603
Ash Tubs to be provided	...	427
Soilpipes to be repaired or removed	...	72
Urinals to be put in order or closed	...	37
Drains to be relaid or repaired	...	1,455
Drains to be opened and cleansed	...	8,864
Gully Traps to be provided	...	330
Interception Traps to be provided on main drains	...	54
Premises to be supplied with additional drains	...	129
Drains in cellars to be disconnected or abolished	...	9
Sink Bend Pipes to be repaired or affixed	...	1,061
Sanitary Sinks to be provided	...	385
Yards to be paved	...	45
Yards to be repaired	...	684
Courts or Yards to be cleansed by Tenants	...	164
Wash Houses to be repaired or limewashed	...	1,284
Keeping of fowls to be discontinued	...	74
Nuisances from swine and swine styes abated	...	15
Accumulations of rubbish, manure, etc., to be removed	...	313
Manure receptacles to be provided or repaired	...	81
Dangerous premises to be reported to City Surveyor's Department	...	689
Defective Fittings to be reported to Water Dept.	...	2,461
Other Work to be done	...	48
Total	...	56,611

SANITARY NOTICES ISSUED.

Preliminary notices	...	...	...	...	...	14,452
Reminders...	...	...	...	...	...	1,976
Statutory notices...	...	...	...	...	...	961

SPECIAL COURTYARD INSPECTORS.

No. of houses in courtyards visited	...	...	...	...	321,479
W.C.'s locked up	...	...	...	...	69,522
W.C.'s not locked	...	...	...	...	61,536
W.C.'s found obstructed	...	...	...	...	3,320
W.C.'s found dirty	...	...	...	...	287
Defective W.C.'s reported	...	...	...	...	1,535
Obstructed drains reported	...	...	...	...	633
No. of ashbins required	...	...	...	...	8,724
No. of good ashbins	...	...	...	...	84,027
No. of defective ashbins	...	...	...	...	4,282
Other defects reported	...	...	...	...	1,969

WORK DONE BY COURT CLEANSING STAFF.

Courts cleansed by staff and paid for	...	...	12,069
Courts cleansed free of charge	...	...	5,660
Houses stripped	...	...	120
Out-houses limewashed	...	...	11
W.C.'s examined	...	...	83,007
W.C.'s opened	...	...	12,096
W.C.'s cleansed (swilled)	...	...	62,786
Pan privies cleansed (swilled)	...	...	142
Ash places	"	...	27,401
Drain traps cleansed	...	...	134,391
Drains freed from obstruction	...	...	6,827

COMMON LODGING HOUSES.

No new lodging houses were registered during the year, and one was closed, leaving 34 such houses in the city, having accommodation for 2,226 lodgers. The work done in connection with them is shown below:—

Visits by day	...	...	...	...	...	...	...	1,291
Visits by night	...	...	...	...	...	...	...	121
Work ordered:—								
Windows to be opened	...	...	...	...	...	...	...	206
Walls, floors, roofs, etc., to be repaired	...	...	...	...	...	...	...	80
Water-closets to be repaired	...	...	...	...	...	...	...	11
Water-closets to be cleansed	...	...	...	...	...	...	...	205
Ashbins to be provided	...	...	...	...	...	...	...	11
Drains or yards to be repaired	...	...	...	...	...	...	...	44
Houses to be limewashed	...	...	...	...	...	...	...	76
Floors to be cleansed	...	...	...	...	...	...	...	180
Removal of rubbish	...	...	...	...	...	...	...	60
Sinks to be repaired	...	...	...	...	...	...	...	1
Wash basins to be provided	...	...	...	...	...	...	...	15
Fire buckets to be provided	...	...	...	...	...	...	...	25
Bed clothing to be provided (sets)	...	...	...	...	...	...	...	347
New beds provided	...	...	...	...	...	...	...	74
Bedsteads provided or repaired	...	...	...	...	...	...	...	20
Beds cleansed	...	...	...	...	...	...	...	8
Yards to be cleansed	...	...	...	...	...	...	...	131
Washplaces to be cleansed	...	...	...	...	...	...	...	62
Water taps to be provided or repaired	...	...	...	...	...	...	...	27

HOUSES SUB-LET IN LODGINGS.

The work done in regard to this very objectionable class of houses is indicated in the next statement :—

Houses registered during year	...	...	...	...	...	...	59
Houses removed from register	...	...	...	...	...	...	188
Houses on the register at end of year	...	...	...	...	...	...	503
Lodgers allowed	...	...	...	...	...	...	3,561
Visits paid to registered houses	...	...	...	...	...	...	5,349

CONTRAVICTIONS REMEDIED :—

Overcrowding	...	...	...	...	...	...	46
Improperly mixing the sexes	...	...	...	...	...	...	8
Repairs to houses	...	...	...	...	...	...	251
Rooms not swept daily	...	...	...	...	...	...	196
Passages not swept	...	...	...	...	...	...	43
Stairs not swept	...	...	...	...	...	...	40
Bedding to be cleansed	...	...	...	...	...	...	48
Houses to be cleansed (walls and ceilings)	...	...	...	...	...	...	229
Drains, etc., obstructed	...	...	...	...	...	...	127
Water-closets to be repaired	...	...	...	...	...	...	43
Ash-tubs to be provided	...	...	...	...	...	...	15
Windows not opened	...	...	...	...	...	...	124

CANAL BOATS REPORT.

PUBLIC HEALTH AND HOUSING DEPARTMENT,

THE COUNCIL HOUSE,

BIRMINGHAM.

Gentlemen,

In compliance with Section 3 of the Canal Boats Act, 1884, I beg to submit to you the annual report of the work done by this Department during the year 1919, under the Canal Boats Acts, 1875 and 1884, and the regulations made by the Local Government Board under these Acts.

The work has been done by Inspector W. G. F. Childs, who has returned from service with the army, and who also acts in addition as Inspector of Common Lodging Houses. Inspector Childs' wage for these combined offices is 55s. per week and 29s. 6d. per week bonus together with uniform and cycle allowance.

INSPECTION OF BOATS.

890 boats were inspected during the year. These boats which were registered to carry 1,975½ persons were found to be occupied by 1,189 men, 566 women and 553 children, equivalent to a total of 2,031½ adults.

The number of inspections in each of the four quarters of the year was as follows :—

First quarter	...	...	...	...	...	...	191 boats inspected.
Second quarter	...	...	...	...	...	...	202 " "
Third quarter	...	...	...	...	...	...	205 " "
Fourth quarter	...	...	...	...	...	...	292 " "
Total	...	...	...	...	...	890	_____

The following table shows the number of boats inspected during the last five years with the number of adults the boats were registered to carry and the number actually accommodated on board :—

Year.	No. of Boats.	Registered to Carry.	Actually Accommodated.
1915	802	2,557½	1,827
1916	1,072	3,647	2,565½
1917	973	3,300½	2,350
1918	868	3,017	2,072½
1919	890	2,975½	2,031½

Of the 890 boats inspected, 855 or 96·1 per cent. were found to be in good condition and complying with the Acts and Regulations, and 35 or 3·9 per cent. were found to have contraventions of various kinds. The total number of such contraventions was 85, distributed among the 35 boats as follows :—

Boats met with 1 contravention	7	Total contraventions	7
" " " 2 complaints	14	" "	28
" " " 3 "	6	" "	18
" " " 4 "	8	" "	32
	—		—
Total	35	Total	85

Complaint notes were served on the registered owners in every case. During the year 31 complaint notes were returned by owners, each duly signed by a Canal Boats Inspector, certifying that 73 contraventions had been remedied, leaving 46 to be carried forward to be dealt with during the year 1920.

The following table shows the number and character of the various contraventions found and remedied during the year 1919:—

Contraventions referred to.	Outstanding and brought forward from 1918.	Found during 1919.	Remedied during 1919.	Carried forward to 1920.
Boats not registered ...	2	2	3	1
Certificates not identifying boat ...	1	—	—	1
Certificates not produced ...	5	6	9	2
Repairs ...	7	18	17	8
Painting ...	7	22	15	14
Marking ...	3	22	13	12
Leaks ...	5	10	9	6
No pump on board ...	1	—	1	—
No water vessel on board ...	2	—	2	—
Dirty cabins ...	—	5	3	2
Separation of sexes ...	—	—	—	—
Overcrowding ...	1	—	1	—
	—	—	—	—
Totals ...	34	85	73	46
	—	—	—	—

REGISTRATION OF BOATS.

Twelve boats have been registered in Birmingham during the year 1919, and eleven registrations have been cancelled, leaving a total of 470 on the register, as compared with 465 on December 31st, 1918.

The registrations were as follows:—

New Motor Boats ...	...	...	...	...	...	...	0
New Ordinary Boats ...	...	...	...	...	...	...	3
Re-registrations ...	...	...	...	...	...	...	9
							—
							12
							—

Of the nine re-registrations eight were necessitated by change of ownership and one by conversion from steamer to motor-boat. Three of the boats which changed hands were formerly registered at Birmingham, two at Coventry, one at Gloucester, one at Daventry and one at a place unknown.

The number of boats on the Birmingham register for the last five years is shown as follows:—

December 31st, 1915—Boats on Register	...	...	...	464
" 1916	"	...	...	465
" 1917	"	...	...	464
" 1918	"	...	...	465
" 1919	"	...	...	470

The 470 boats on the register on December 31st, 1919, comprise the following:—

Ordinary boats ...	...	...	...	...	...	426
Steamers ...	...	...	...	...	...	21
Motor-boats ...	...	...	...	...	...	23
						—
Total ...	...	...	...	...	...	470
						—

INFECTIOUS DISEASES.

No cases of infectious disease have been found during the year on any boat, but two boats were disinfected on arrival in Birmingham, one after removal of a case of scarlet fever to hospital at Lorry Itchington, and one from which a patient suffering from diphtheria had been removed to hospital at Daventry. The owner of the boat and the authority by whom the boat was registered were in each case notified of this proceeding.

I am, Gentlemen, your obedient servant,

T. W. BEAZELEY, M.B., D.P.H.,
Assistant Medical Officer of Health.

MILKSHOPS AND DAIRIES.

No. of milkshops on register	...	...	...	...	3,634
No. of dairies on register	...	...	...	...	9
No. of purveyors on register	...	...	...	...	396
Visits to milkshops	...	...	...	...	5,906
Visits to dairies	...	...	...	...	17
Visits to purveyors	...	...	...	...	240
Visits to railway stations	...	...	...	...	34
Milk vessels examined	...	...	...	...	10,759
Milkshops limewashed	...	...	...	...	60
Sanitary defects remedied	...	...	...	...	65
Cases of infectious disease dealt with	...	...	...	...	46
New milkshops registered	...	...	...	...	127
New purveyors registered	...	...	...	...	61

INSPECTION OF MEAT AND FISH.

(RETURN SUPPLIED BY MR. H. C. WILKINS, SUPERINTENDENT OF MARKETS.)

Six inspectors were engaged in visiting the public abattoirs and the large number of private slaughter houses, the remaining one being away on military service. For this purpose they made 8,611 visits in addition to the constant work carried on at the public slaughter houses and wholesale and retail markets.

The amount of food seized and surrendered was as follows:—

Bad Meat.

Voluntarily surrendered	...	...	...	...	...	2,719 lots.
Seized by Inspectors	...	...	...	...	...	2 "
Weight destroyed	...	...	...	...	...	448 tons.
Persons prosecuted	...	...	...	...	...	2
Penalties inflicted	...	...	...	...	...	£10

Bad Fish, Poultry, etc.

Voluntarily surrendered	...	...	...	...	...	1,640 lots.
Seized	...	...	...	...	...	—
Weight destroyed	...	...	...	...	...	395 tons.
Persons prosecuted	—
Penalties inflicted	—

Bad Fruit, etc.

Weight destroyed	59 tons.
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FACTORIES AND WORKSHOPS.

I. INSPECTION OF FACTORIES, WORKSHOPS AND WORKPLACES.

(Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.)

PREMISES. (1)	Number of		
	Inspections. (2)	Written Notices. (3)	Prosecutions. (4)
Factories (including Factory Laundries)	1456	237	—
Workshops (including Workshop Laundries)	4785	238	—
Workplaces (other than Outworkers' premises included in Part 3 of this Report)	607	18	—
Total	6848	493	—
Revisits paid	3153	—	—

II.—DEFECTS FOUND IN FACTORIES, WORKSHOPS AND WORKPLACES.

PARTICULARS. (1)	Number of Defects.			Number of Prosecutions. (5)
	Found. (2)	Remedied. (3)	Referred to H. M. Inspector. (4)	
Nuisances under the Public Health Acts :—				
Want of cleanliness	1236	1236	—	—
Want of ventilation	25	24	—	—
Overcrowding	5	5	—	—
Want of drainage of floors	1	1	—	—
Other nuisances	548	547	—	—
Sanitary accommodation—				
Insufficient	81	81	—	—
Unsuitable or defective	1037	1031	—	—
Not separate for sexes	54	53	—	—
Offences under the Factory and Workshop Act :—				
Illegal occupation of underground bakehouse (s. 101)	—	—	—	—
Breach of special sanitary requirements for bakehouses (ss. 97 to 100) ...	—	—	—	—
Other offences (excluding offences relating to outwork which are included in Part 3 of this Report) ...	—	—	—	—
Total	2987	2978	—	—

III.—HOME WORK.

OUTWORKERS' Lists, Section 107.

OUTWORK IN UNWHOLESALE
BUSINESSES, SECTION 108.

NATURE OF WORK.	Lists received from Employers				Notices served on Outworkers.				Prosecutions.				Prosecu- tions, section- (109, 110)	
	Sending twice in the year		Sending once in the year.		Outworkers.		Workmen.		Prosecu- tions, served.		In- stances.			
	Outworkers.	Contractors.	Lists.	Con- tractors.	Work- men.	Con- tractors.	Work- men.	Lists.	Notices	Prosecu- tions.	In- stances.			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15) (16)
Wearing apparel—(1) making, etc. (2) cleaning and washing	300	842	1238	44	98	79	—	—	—	—	—	—	—	—
Household linen	—
Lace, lace curtains and nets	—
Curtains and furniture hangings	—
Furniture and upholstery	—
Electro-plate	26	207	34	3	4	4	—
File making	2	4	22	2	8	10	—
Brass and brass articles	—
Fur pulling	—
Cables and chains	—
Anchors and grapnels	—
Cart gear	—
Locks, latches and keys	—
Umbrellas, etc.	—
Artificial flowers	—
Nets, other than wire nets	—
Tents	—
Sacks	—
Racquet and tennis balls	—
Paper, etc., boxes, paper bags	32	—	119	5	—	—	25
Brush making	12	—	92	—	—	—
Pea picking	—
Feather sorting	58	56	1319	12	—	85
Carding, etc., of buttons, etc.	2	6	—	—	—	—
Stuffed toys	—
Basket making	—
Chocolates and sweetmeats	—
Total	434	1109	2830	66	110	203	606

IV.—REGISTERED WORKSHOPS.

Workshops on the Register (s. 131) at the end of the year	5,030
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V.—OTHER MATTERS.

	Number.
Matters notified to H.M. Inspector of Factories :—	
Failure to affix Abstract of the Factory and Workshop Acts (s. 133, 1901)	16
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Acts (s. 5, 1901)	Notified by H.M. Inspector ... 340
Reports (of action taken) sent to H.M. Inspector ...	319
Other	—
Underground bakehouses (s. 101) :—	
Certificates granted during the year	—
In use at the end of the year	6

During the year an inquiry was made into the sanitary condition of the kitchens of hotels, restaurants, and cafés in the City, and the following is a copy of the report made in regard to them by Dr. F. T. H. Wood, one of the Assistant Medical Officers of Health :—

REPORT ON THE SANITARY CONDITIONS IN THE KITCHENS OF HOTELS, RESTAURANTS
AND CAFÉS IN BIRMINGHAM.

(BY DR. F. T. H. WOOD, ASSISTANT MEDICAL OFFICER OF HEALTH.)

NATURE OF INSPECTION.

1. The kitchens and necessary cooking and washing places of 145 such establishments have been inspected, and notes of the conditions found have been made on the schedule forms, of which a sample is attached. In addition to noting specific defects to which the schedule calls attention, each establishment has been classified A, B, or C, in respect of its general cleanliness, and, in this regard, attention has been given rather to the personal factors (supply of clean hot water for washing eating utensils, supply of clean drying cloths, cleanliness of workers, and general kitchen methods) than to the structural conditions.

CLASSES OF KITCHENS.

2. A convenient classification of these establishments can be made according to the class of business done, as under :—

(i) Residential hotels, including commercial and temperance hotels : 25 inspected, of which 12 were noted A for general cleanliness, 11 B, and 2 C.

(ii) Restaurants or cafés catering for city workers : 70 inspected, of which 21 were noted A, 33 B, and 16 C.

(iii) Coffee shops or dining rooms for the working classes : 50 inspected, of which 2 were noted A, 16 B, and 32 C.

Further, 172 coffee houses in which hot meals are not served were inspected without making detailed entries on the schedule form, and for the most part these fell in Class C.

SANITARY DEFECTS FOUND.

3. A statement showing various sanitary defects referred for action is set out below, and with it should be read the figures for the kitchens classed C as unsatisfactory in respect of general cleanliness. At the foot of the table the numbers of underground kitchens are noted ; in these, questions of ventilation, lighting, and drainage require special attention.

4. THE GENERAL FINDINGS may be summarised thus :—

(a) In the residential hotels, 48 per cent. of the kitchens are suitably equipped and satisfactorily worked (Class A); in the business workers' lunch establishments, 30 per cent., and in the working class coffee shops, only 4 per cent.

(b) In the residential hotels, 8 per cent. are badly equipped and unsatisfactorily worked (Class C); in the business workers' lunch establishments, 23 per cent., and in the working class coffee shops, 64 per cent.

(c) Washing-up methods are referred to in the attached note on the results obtained by the washing-up methods practised in restaurants and cafés; but here it may be said that only the three or four largest hotels use washing machines in which the temperature of the water is high enough to sterilize the utensils; that 12 per cent. have no hot water laid on at the principal washing places, and that in many of the Group II. and Group III. establishments it is the custom to have additional washing places behind the serving counter, and for that purpose to employ bowls of water which remain unchanged after much use. The supply of dish cloths and drying cloths is an important matter, particularly in the Group II. cafés, where rapid work is required at the rush hours at mid-day and tea-time, and, in general, it may be said to receive too little attention.

(d) In a number of instances in the business cafés, presumably owing to a rapid increase of custom, the kitchen premises are unduly cramped, and there is no suitable cloak room for the employees, with the result that wet and dirty garments are allowed to litter the kitchen or the pantry.

RECOMMENDATIONS.

5. The following points are submitted as indicating necessary improvements in the kitchens of the city hotels, restaurants and cafés, without attempting to outline the requirements of a model sanitary kitchen, larder or wash-place.

(a) A hot water supply direct to all washing sinks or troughs, with frequent changing of the water used. As a corollary, no washing of crockery under the serving counter unless water is laid on.

(b) The use of two boshes, in the first of which the utensils should be roughly cleaned with a dish-cloth and then lifted in a wire cradle into the second containing clean water at 60 or 70 degrees centigrade, frequently changed; from this the utensils are lifted for drying in the air, and a cloth subsequently used only for polishing. It is suggested that this method is suitable and possible in all Group II. establishments, while the larger kitchens of this group may find it practicable to go further and instal washing machines. In the case of Group III. it may not be possible to have two boshes, and in that case a final rinse of clean hot water should be given and the utensils placed in a draining rack.

(c) A liberal supply of clean drying cloths.

(d) A keener sense of the importance of cleanliness of premises, apparatus and persons.

TABULAR STATEMENT OF SANITARY DEFECTS.

Class	...	...	Group I. (25).			Group II. (70).			Group III. (50).		
			A (12)	B (11)	C (2)	A (21)	B (33)	C (16)	A (2)	B (16)	C (32)
Needing limewashing	...	...	—	2	2	—	5	7	—	4	13
Insufficient ventilation	...	...	—	1	—	—	2	4	—	—	—
Insufficient lighting	...	...	—	—	—	—	—	—	—	2	1
Obstructed drain	...	...	—	1	—	1	1	—	—	—	1
W.C. ventilating into kitchen	...	...	—	1	—	—	1	2	—	—	—
Unsuitable refuse bin	...	...	—	—	—	—	—	2	—	1	2
Cleanliness unsatisfactory	...	...	—	—	2	—	—	16	—	—	32
Kitchen underground	...	...	2	3	—	4	17	9	—	5	7

A specimen of the sheet used in the enquiry is reproduced below :—

Address	Class of Cooking
Occupier	Owner
CONSTRUCTION.	
Situation	
Floor area	Surface
Walls	
Ventilation	Lighting
Cooking on	Number of boiling pans
Food preparing surfaces	
PERSONNEL.	
Number	Clothing
Sanitary accommodation	
FOOD STORAGE.	
Situation	
Ventilation	
Cleanliness	
COOKING AND EATING UTENSILS.	
Where washed	Water supply
Supply of dish cloths	
REFUSE BIN.	
Material	
GENERAL REMARKS.	

RESULTS OBTAINED BY THE WASHING-UP METHODS PRACTISED IN RESTAURANTS AND CAFÉS.

SCOPE OF ENQUIRY. To investigate the bacterial counts from unwashed used eating and drinking utensils, and from similar utensils after washing as ordinarily practised at home and in the hotel and restaurant kitchens in Birmingham.

"WASHING-UP METHODS" NOTED.

- (a) In the home observations the utensils were cleaned by a dish-cloth in a bowl of water at a temperature of about 40° C., and after draining were dried on a tea-cloth. (Expts. 3, 12, 13, 14, 15, 16.)
- (b) In most of the kitchens serving light refreshments similar methods were employed—except that in some cases wooden "boshes" on enamel-ware sinks were used, and the temperature of the water varied from 20° to 40° C.; in few instances soda was added. In some, where water was not laid on, the contents of the bowls were very dirty. (Expts. 4, 5, 6, 7, 8, 9, 17.)
- (c) In two cases tested the dirty utensils were rough-cleaned with a dish-cloth in a first bosh of hot water (about 40° C.), and then transferred in a metal cradle to a second bosh of clean hot water at 60° C. (instruction being to work at 160° F. or 71° C.); then lifted out and drained, and in one case polished with a cloth when dry. (Expts. 19, 20.)

METHOD OF ENQUIRY. A portion of the cup or spoon to be examined was swabbed with a moist sterile camel's hair brush, and the brush soaked in 5 c.c. sterile water for 10 minutes. Serial dilutions from this were plated out on agar and incubated at 37° C. for 48 hours.

The following criticisms can be passed on this method in respect of its affording comparisons between degrees of infection of the utensils with mouth-organisms :—

1. Temperature and time elapsed from act of using or of washing were not constant; hence there would be a variable multiplication of the bacteria already present, and a variable addition of bacteria from the surface on which the utensils rested.
2. A brushing of one portion only of the surface of the utensil had to be relied on.
3. Total counts were made, and mouth-organisms were not separated.

FINDINGS OF ENQUIRY.

1. A low bacterial count in the used washing-up water of the home as compared with the restaurant or café.
2. A low bacterial count (practical sterility) from eating and drinking utensils washed in the home as compared with those washed in the restaurant or café.

RECOMMENDATIONS.

The essential difference in method between the home and the restaurant appears to be less one of temperature of the water used, and rather one of volume. Where hot water has to be carried from a gas-heater to a bowl or bath on a bench the temptation to continue the use of dirty water is not withheld, and it is common to find such visibly dirty water in the less well-fitted restaurants.

Accordingly we would suggest:—

1. The necessity of frequent change of the washing-up water, and hence the desirability of all kitchens being fitted with a hot water supply over a washing trough or bosh, and the discontinuance of the practice of washing in a bowl under the serving counter.

2. Although not supported by bacteriological findings, the desirability of the two bosh method in which the utensils are rough cleaned with a dish cloth in the first bosh and then lifted in a wire cradle to the second containing water at temperatures up to 60° or 70° C.; from this the utensils are lifted for drying in the air, and a cloth is subsequently used only to polish.

DETAILS OF OBSERVATIONS.

No. of Obser- vation	Swabbed after w.c. and before washing.		Swabbed after washing and drying.		C. ^o	Temp. of wash- ing-up water.	Bacteria per c.c. of wash- ing-up water.	Remarks.
	Utensil.	Bacteria per c.c. from brushing into sterile water.	Utensils.	Bacteria per c.c. from brushing into sterile water.				
3	—	—	Dessert Spoon	0	40°	1,760		
4	Teacup	0	—	—	—	—		
	—	—	Plate	0	30°	664,000		
5	Teacup	0	—	—	—	—		
	—	—	Plate	0	25°	7,610	Water very dirty.	
6	Teacup	3,380	—	—	—	—		
	—	—	Plate	12,720	30°	Too numerous	(Several million.)	
7	—	—	Plate	30	30°	Too numerous	Ditto, washing in bath.	
8	—	—	Teacup	1,200	30°	30,000	Washing in bowl.	
9	—	—	Teacup	170	20°	—		
	—	—	Teacup	290	20°	—		
10	—	—	Teacup	0	20°	—		
	—	—	Teacup	0	20°	—		
	—	—	Teacup	0	40°	—		
							Running water : clean drying cloth.	
12	Teacup	27	Teacup	8	40°	—		
	—	—	Spoon	27	40°	—		
13	Teacup	71	Teacup	0	40°	—		
	Teacup	179	Teacup	0	40°	—		
14	Spoon	3,900	Spoon	2	40°	—		
	Spoon	4,000	Spoon	0	40°	—		
15	Spoon	320	—	—	—	—		
	Spoon	580	—	—	—	—		
16	—	—	Spoon	0	40°	5,980		
	—	—	Spoon	0	40°	5,980		
17	—	—	Teacup	205	40°	1,830,000		
19	Teacup	1,320	—	—	—	—		
	—	—	Teacup	920	45°	—		
	—	—	Teacup	175	45°	—		
20	Teacup	1,230	—	—	—	—		
	—	—	Teacup	650	35°	—		
	—	—	Teacup	290	35°	—		
							Washing in two boshes : wire cradle : no drying cloth. Plates streaky.	
							Washing in two boshes : wire cradle : polished with cloth.	

HEALTH VISITORS' WORK.

BY BLANCHE GARDINER, B.A., SUPERINTENDENT OF HEALTH VISITORS.

During the year 1919 the total number of Women Health Visitors (General, Infant and Tuberculosis), was about 86, an increase of eight on the previous year. Of these 19 were engaged in general health visiting, 13 in Tuberculosis visiting and the remainder in Infant Welfare work.

Reports concerning the two latter are dealt with elsewhere, but the following table indicates the work of the General Health Visitors, and gives for comparison the figures for 1918 and 1917.

PRIMARY VISITS :—

	1917.	1918.	1919.		1917.	1918.	1919.
Systematic ...	... 2,488	1,870	3,508	Blight ...	... ...	58	26 25
Births ...	... 6,522	4,891	3,589	Unclassified School Cases	... 2,927	3,802	3,277
*4 Ophthalmia Neonatorum	81	103	79	Schools	... ...	280	1,086 273
Diarrhoea Deaths ...	136	141	44	Reported Overcrowding	... ...	16	13 5
Measles ...	... 13,935	4,756	13,284	Health Talks ...	... ...	12	19 25
German Measles ...	403	352	566	Country Holiday Inspections	... ...	15	28 21
Chicken-Pox ...	2,754	2,087	2,277	Other Visits ...	... ...	6,030	9,222 6,253
Whooping Cough ...	2,044	3,596	843				
Mumps ...	... 1,619	5,676	738	Total ...	... ...	40,948	39,216 38,221
Ringworm ...	... ...	14	19	13 RE-VISITS ...	... ...	14,945	14,200 13,985
*1 Seabies ...	... 1,327	1,359	1,153	USELESS VISITS (<i>i.e.</i> , Removed,	... ...	
Impetigo ...	... 202	135	159	Out, etc.) ...	... ...	7,092	6,938 6,652
Vermilion ...	... 85	35	17				
*2 Influenza ...	... ...		1,301	Grand Total ...	... 62,985	60,354	58,858
*3 Pneumonia ...	... ...		771				

(*)1 *Scabies.* In connection with this disease, the figures of primary visits paid to homes, as also of scabies cases reported by schools, show a decrease in the numbers from those of 1918 and 1917 (when war conditions were obtaining), and thus lead one to hope that the complete cessation of hostilities will further lessen the prevalence of scabies.

(*)2 *Influenza.* The number of homes visited for Influenza was recorded separately for the first time in 1919, whereas previously it was entered under "other visits." Fewer schools were visited this year than in 1918, when during the two epidemics of Influenza the Health Visitors made enquiries there with regard to the absence from illness of school children, but this information was not necessary during the influenza epidemic of 1919.

(*)3 *Pneumonia.* After the compulsory notification of "acute primary pneumonia and influenzal pneumonia" from March 1st, 1919, the Health Visitors visited the homes of notified cases, and in those instances, where there was a shortage of nurses, or of coal, milk or other necessities, they approached the various agencies concerned, so as to get this remedied.

(*)4 *Ophthalmia Neonatorum.* Of the 282 cases notified during the year the Infant Visitors dealt with 218 cases and the Health Visitors with the remaining ones.

Re Milk. Towards the end of the year provision of milk under the Milk (Mothers and Children) Order, 1918, was started tentatively in Birmingham, the following amounts being allowable :—

- (a) For children under 18 months, not more than $1\frac{1}{2}$ pints daily.
- (b) For children between 18 months and 5 years not more than 1 pint daily.
- (c) For nursing mothers, the amount that would have been allotted to the baby was granted to the mother instead.

(d) For expectant mothers, one pint of milk daily for the last three months.

From November 17th, 1919, to the end of the year, 29 families (where there were children under 5 years of age) received milk at a reduced rate.

The complete cessation of hostilities rendered the visiting of the homes somewhat less harassing to the Visitors than in the four preceding years, in that there were no longer now the sad details to be heard of relatives killed and wounded.

There still remain the ever-present difficult cases of the lonely aged poor, the mentally weak, and the chronic sufferers, and the Visitors realise that much time must be spent (and is well spent) in seeing these cases through to a satisfactory finish, and the staff are to be congratulated upon the enthusiasm which they bring to bear on their work, year after year, in the face of many obstacles.

TABLE I.

Vital Statistics of Whole District during 1919 and previous Years.

Year.	Burms.				Total Deaths Registered in the District				Transferable Deaths.				NETT DEATHS BELONGING TO THE DISTRICT.				
	Uncorrected		Nett.		Number		Rate.		Number		Rate.		Non-residents registered in the District		Residents not registered in the District		
	Number	5	4	5	6	7	8	9	10	11	12	13	Rate per 1,000 Net Births.	Number	Rate per 1,000 Net Births.	Number	Rate.
1901	...	760,989	?	23,866	31.4	14,089	18.6	?	?	4,205	176	13,290	17.5				
1902	...	768,457	?	24,246	31.2	12,973	16.7	?	?	3,503	144	12,650	16.3				
1903	...	776,604	?	23,956	30.9	12,433	16.0	?	?	3,525	147	12,224	15.8				
1904	...	784,532	?	24,260	31.0	14,047	17.9	?	?	4,346	179	13,882	17.7				
1905	...	792,540	?	22,939	29.0	12,132	15.3	?	?	3,224	141	11,948	15.1				
1906	...	800,631	?	23,484	29.4	12,983	16.2	?	?	3,682	157	12,737	15.9				
1907	...	808,803	?	23,233	28.8	12,567	15.6	?	?	3,084	133	12,356	15.3				
1908	...	817,060	?	23,986	29.1	12,782	15.5	?	?	3,124	130	12,596	15.3				
1909	...	825,400	?	22,555	27.4	12,573	15.3	?	?	2,727	121	12,398	15.1				
1910	...	833,896	?	22,288	26.8	11,200	13.5	?	?	2,570	115	11,001	13.2				
1911	...	842,337	?	21,975	26.1	12,760	15.2	?	?	3,298	150	12,423	15.0				
1912	...	850,947	22,186	22,168	26.1	12,131	14.3	338	212	2,470	111	12,005	14.1				
1913	...	859,644	23,858	23,812	27.3	13,116	15.0	362	208	3,070	129	12,962	14.9				
1914	...	882,534	23,268	23,107	26.4	13,115	14.9	346	207	2,839	122	13,026	14.8				
1915	...	891,234	21,217	21,187	23.8	12,907	14.5	4,18*	357	2,490	118	12,816	14.4				
1916	...	845,678	20,663	20,618	23.1	12,268	13.7	603*	416	2,142	101	12,081	13.5				
1917	...	900,000	17,681	17,706	19.7	11,252	12.5	569*	591	1,791	101	11,271	12.6				
1918	...	870,000	16,932	16,840	19.4	13,334	15.4	741*	582	1,671	99	13,175	15.2				
Averages for years 1901-1918		831,195	?	22,351	27.0	12,703	15.3	?	?	2,987	132	12,502	15.1				
1919	...	910,000	19,468	19,335	20.9	12,180	13.2	585	105	1,630	84	12,000	13.0				

Rates in columns 5, 7, and 13 calculated per 1,000 of estimated population.

Year	Estimated population of Cuba	Estimated percentage of population in urban areas	Estimated percentage of population in rural areas	Estimated percentage of population in urban areas in 1953	Estimated percentage of population in rural areas in 1953	Estimated percentage of population in urban areas in 1957	Estimated percentage of population in rural areas in 1957
1950	4,500,000	30.0	69.9	29.8	70.2	31.0	68.9
1953	4,700,000	31.0	68.9	30.0	69.9	31.5	68.4
1957	5,000,000	33.0	66.7	32.0	67.9	34.0	65.9
1960	5,300,000	35.0	64.9	34.0	65.9	36.0	63.9

Area of District in acres, 11,840,202.

Average Number of Persons per house, 4.7.

TABLE II.

Causes of, and Ages at, Death during the Year ending January 3rd, 1920.

CAUSE OF DEATH.	AGES.															Males	Fe- males	Per- sons			
	0-	1-	2-	3-	4-	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-	85-					
1.—GENERAL DISEASES.																					
Enteric Fever ...	...	...	—	—	—	—	—	1	—	1	—	3	3	—	1	—	5	4	9
Typhus Fever ...	...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Relapsing Fever ...	...	...	—	—	—	—	—	—	—	—	—	1	1	1	—	—	3	—	3
Malaria ...	...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Smallpox—																					
(a) Vaccinated ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
(b) Not Vaccinated ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
(c) Doubtful ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Measles ...	...	...	31	62	41	16	14	23	1	—	1	—	—	—	—	—	87	102	189
German Measles ...	...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Scarlet Fever ...	...	...	1	5	6	4	2	22	2	1	1	—	1	—	—	—	23	22	45
Whooping Cough ...	...	...	19	21	8	7	2	3	—	—	—	—	—	—	—	—	25	35	60
Diphtheria ...	...	...	7	8	13	20	13	50	13	1	—	1	—	—	—	—	60	66	126
Croup ...	...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Influenza ...	...	...	36	31	27	11	13	22	20	46	67	226	143	152	123	94	43	8521	5411062
Miliary Fever ...	...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Asiatic Cholera ...	...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cholera Nostras... ...	...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dysentery ...	...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	1	3
Plague ...	...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Yellow Fever ...	...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Leprosy ...	...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Erysipelas	2	—	—	—	—	—	—	1	—	2	—	1	1	—	2	1	6	4	10	
Other Epidemic Diseases ...	1	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	3	3	3	
Pyæmia, Septicaemia ...	2	—	—	1	—	—	2	1	—	1	1	1	—	—	—	—	4	5	9		
Glanders ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Anthrax (Splenic Fever)	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Rabies ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Tetanus ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	
Mycoses ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Pellagra ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Beri-Beri... ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Pul. Tuberculosis (not acute)...	1	5	3	3	1	10	17	61	72	197	258	218	91	33	1	—	575	396	971		
Acute Phthisis ...	...	—	—	—	—	—	1	3	5	5	5	5	10	9	1	—	21	18	39	
Acute Miliary Tuberculosis ...	1	—	—	—	—	1	—	—	2	1	2	2	—	—	—	—	5	4	9		
Tuberculous Meningitis ...	6	10	13	9	3	13	6	3	3	1	—	1	—	—	—	—	30	38	68		
Tuberculosis (Periton. Intest.)	7	5	2	1	1	10	6	3	2	1	1	5	1	1	—	—	24	22	46		
Tuberculosis (Spinal Column)	—	—	—	—	—	1	2	3	—	—	1	—	—	—	—	—	6	3	9		
Tuberculosis (Joints) ...	—	—	—	—	—	—	—	5	—	—	1	—	—	—	—	—	5	2	7		
Tuberculosis (other organs) ...	—	—	—	—	—	—	2	—	—	2	1	—	3	1	1	—	6	4	10		
Disseminated Tuberculosis ...	3	4	3	1	—	2	3	4	—	4	2	1	1	1	—	—	8	21	29		
Rickets, Softening of Bones ...	1	2	4	4	—	1	—	1	—	—	—	—	—	—	—	—	7	6	13		
Syphilis ...	...	39	3	—	—	—	—	—	—	—	2	2	3	—	2	—	29	22	51	
Other Venereal Diseases ...	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1		
Cancer (buccal cavity)...	—	—	—	—	—	—	—	—	—	—	1	4	14	26	24	5	2	65	11	76	
Cancer (stomach, liver, etc.) ...	—	—	—	—	—	—	—	—	—	1	2	21	60	80	77	32	4	152	125	277	
Cancer (periton., intest., rectum) ...	—	—	—	—	—	—	1	—	6	7	36	56	75	35	2	104	114	218	218		
Cancer (female genital organs) ...	—	—	—	—	—	—	1	—	1	21	32	33	20	5	—	—	113	113	113		
Cancer (breast) ...	—	—	—	—	—	—	—	—	—	1	12	27	23	19	11	1	—	94	94	94	
Cancer (skin) ...	—	—	—	—	—	—	—	—	—	—	1	3	5	3	2	6	8	4	14		
Cancer (other organs) ...	—	—	—	—	—	1	1	1	2	3	2	15	33	45	25	15	—	103	40	143	
Other Tumours (undefined) ...	—	—	—	—	—	—	—	—	—	—	1	2	4	1	1	—	7	2	9		
Rheumatic Fever ...	—	—	—	—	—	1	2	7	3	4	4	2	4	3	3	1	—	13	21	34	
Ch.Rheumatism, Osteo-Arthritis	—	—	—	—	—	—	—	—	—	—	1	3	3	7	16	10	4	17	27	44	
Gout ...	—	—	—	—	—	—	—	—	—	—	1	—	1	1	2	1	6	—	6		
Scurvy ...	—	—	—	—	1	—	—	—	—	—	1	—	—	—	—	—	—	2	2		
Diabetes ...	—	—	—	—	—	1	—	4	3	6	2	5	8	10	13	24	5	—	42	39	81

TABLE II.—*continued.*

TABLE II.—*continued.*

CAUSE OF DEATH.	AGES.															Males	Females	Per- son s.		
	0-	1-	2-	3-	4-	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-	85-				
Asthma	—	—	—	—	—	—	—	—	—	—	2	8	16	9	9	7	—	35	16	51
Pulmonary Emphysema ...	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	—	2	—	2	
Fibroid Disease of Lung ...	—	—	—	—	—	—	—	—	—	—	1	—	—	2	1	—	—	3	1	4
Other Dis. of Respiratory System	—	—	—	—	—	—	—	—	—	—	3	1	1	2	—	—	6	1	7	
V.—DIGESTIVE SYSTEM.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Diseases of Teeth and Gums ...	1	—	1	—	—	—	—	—	—	—	1	2	—	1	—	—	6	—	6	
Other Dis. of Mouth and Annexa	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	1	2	
Diseases of Pharynx, Tonsillitis	1	1	2	—	—	2	—	—	—	—	2	1	—	—	—	1	—	6	4	10
Diseases of the Oesophagus ...	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	1	—	1	
Perforating Ulcer of Stomach ...	—	—	—	—	—	—	—	—	—	1	4	19	9	12	8	2	—	32	23	55
Inflammation of Stomach ...	19	2	2	—	—	3	—	—	—	—	2	4	1	4	4	4	—	21	24	45
Other Diseases of Stomach ...	—	—	—	—	—	—	—	—	—	—	2	1	3	2	1	—	6	3	9	
Diarrhoea, Enteritis ...	155	36	5	5	2	2	1	—	—	1	5	3	7	10	14	12	2	140	120	260
Ankylostomiasis ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Other Intestinal Parasites	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Appendicitis ...	—	—	—	—	—	—	3	16	9	4	2	1	6	8	5	3	—	15	42	57
Hernia	—	—	—	—	—	—	—	—	—	—	—	1	4	3	7	5	—	7	13	20
Intestinal Obstruction ...	8	—	—	1	—	3	1	—	—	1	3	8	8	8	14	3	—	29	29	58
Other Diseases of Intestines ...	—	—	—	—	—	—	—	—	—	—	1	—	—	1	—	—	1	1	2	
Acute Yellow Atrophy of Liver	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hydatid of Liver ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Cirrhosis of Liver ...	1	—	—	—	—	—	—	—	—	—	1	10	10	2	3	—	18	9	27	
Biliary Calculi ...	—	—	—	—	—	—	—	—	—	—	—	4	5	6	8	1	—	5	19	24
Other Diseases of Liver ...	1	—	1	—	—	1	—	—	—	—	1	1	2	5	2	2	—	3	13	16
Diseases of Spleen ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Peritonitis (cause unstated) ...	—	—	—	1	—	2	—	—	—	1	2	3	2	1	—	—	5	7	12	
Other Dis. of Digestive System	—	—	—	—	—	—	—	—	—	—	1	—	—	3	—	2	—	2	2	
VII.—GENITO-URINARY SYSTEM.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Acute Nephritis ...	—	3	—	1	1	1	2	2	2	1	2	2	3	1	1	—	11	11	22	
Bright's Disease ...	1	—	—	—	—	—	—	3	4	12	18	36	55	49	28	2	116	92	208	
Chyluria ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	6	12	
Other Dis. of Kidney & Annexa	3	—	—	—	—	—	—	2	2	2	1	1	1	1	—	—	6	3	9	
Calculi of Urinary Passages ...	—	—	—	—	—	—	1	—	—	2	1	1	1	2	1	—	6	3	9	
Diseases of Bladder ...	—	—	—	—	—	—	—	—	—	—	2	2	4	5	—	10	3	13		
Diseases of Urethra, etc. ...	—	—	—	—	—	—	—	—	—	—	1	1	1	1	—	3	—	3		
Diseases of Prostate ...	—	—	—	—	—	—	—	—	—	—	1	4	20	11	—	36	—	36		
Diseases of Male Genital Organs	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Uterine Hæmorrhage ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Uterine Tumour ...	—	—	—	—	—	—	—	—	—	—	1	—	3	—	—	—	4	4		
Other Diseases of Uterus ...	—	—	—	—	—	—	—	—	—	—	3	3	—	1	—	—	7	7		
Ovarian Cyst, Tumour ...	—	—	—	—	—	—	—	—	—	—	1	1	2	1	—	1	1	7	7	
Other Dis. of Female Organs ...	—	—	—	—	—	—	—	—	—	—	3	—	2	—	—	—	5	5		
Diseases of Breast ...	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	1	1		
VIII.—THE PUPERAL STATE.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Accidents of Pregnancy ...	—	—	—	—	—	—	—	—	—	—	4	1	—	—	—	—	5	5		
Puerperal Hæmorrhage ...	—	—	—	—	—	—	—	—	—	—	4	4	—	—	—	—	8	8		
Other Accidents of Childbirth...	—	—	—	—	—	—	—	—	—	—	1	1	1	1	—	—	4	4		
Puerperal Fever ...	—	—	—	—	—	—	—	—	—	—	6	10	6	1	—	—	23	23		
Puerperal Alb'ria & Convulsions	—	—	—	—	—	—	—	—	—	—	1	6	1	—	—	—	8	8		
Phleg. Dolens, Embolism ...	—	—	—	—	—	—	—	—	—	—	3	—	—	—	—	—	3	3		
Puerperal Insanity ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Puerperal Diseases of Breast ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
VIII.—SKIN & CELLULAR TISSUE.	—	—	—	—	—	—	—	—	—	—	—	—	—	4	6	13	4	13	14	27
Senile Gangrene ...	—	—	—	—	—	—	—	—	—	—	—	1	1	—	—	—	2	4	6	
Gangrene (other types)...	—	—	1	—	—	2	1	—	—	—	—	1	1	—	—	—	2	—	3	
Carbuncle, Boil ...	—	—	—	—	—	—	—	—	—	—	—	—	2	—	1	3	—	3		
Phlegmon, Acute Abscess ...	2	1	—	—	—	—	—	—	—	1	—	2	—	3	—	1	7	4	11	
Dis. of Integumentary System	5	—	—	—	—	—	—	—	—	—	—	2	3	2	—	5	7	7		

TABLE II.—*continued.*

CAUSE OF DEATH.	AGES.															Males Females	Persons				
	0-	1-	2-	3-	4-	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-	85-					
IX.—BONES AND ORGANS OF LOCOMOTION.																					
Diseases of Bones	3	—	—	—	—	2	3	2	—	—	1	1	1	—	—	—	9	4	13		
Diseases of Joints	2	—	—	—	—	—	—	—	1	—	2	—	4	1	—	—	4	6	10		
Amputations	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Other Dis. of Locomotor System	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1	1			
X.—MALFORMATIONS.																					
Congenital Malformations	74	2	—	—	1	3	2	—	—	1	—	—	—	—	—	—	49	34	83		
XI.—DISEASES OF EARLY INFANCY.																					
Premature Birth	437	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	230	207	437		
Infantile Debility, Icterus, etc.	208	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	125	83	208		
Other Diseases of early infancy	42	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21	21	42		
Lack of Care (under 3 months)	13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9	4	13		
XII.—OLD AGE.																					
Old Age	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	137	344	145	275	353	628
XIII.—EXTERNAL CAUSES.																					
Suicide—																					
By Poison	—	—	—	—	—	—	—	—	—	1	2	2	2	1	1	—	3	6	9		
By Asphyxia	—	—	—	—	—	—	—	—	—	—	1	1	1	1	—	—	3	1	4		
By Hanging, Strangulation	—	—	—	—	—	2	—	1	—	—	5	4	10	1	1	—	17	7	24		
By Drowning	—	—	—	—	—	—	1	—	—	—	8	5	7	5	—	—	18	8	26		
By Firearms	—	—	—	—	—	—	—	—	—	—	—	1	1	—	—	—	2	—	2		
By Cutting or Piercing	—	—	—	—	—	—	—	1	1	11	8	2	3	2	—	23	5	28			
By Jumping from high places	—	—	—	—	—	—	—	—	—	1	1	—	2	—	—	3	1	4			
By Crushing	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1	—	1		
Other Suicides	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Poisoning by Food	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1	—	1		
Other Acute Poisonings	—	1	—	—	—	—	—	—	1	1	1	—	—	—	—	—	2	2	4		
Conflagration	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1	2	—		
Burns (conflagration excepted)	—	3	5	4	11	7	3	2	—	1	2	3	—	2	2	1	20	26	46		
Deleterious Gases	—	33	1	—	—	—	1	—	1	—	2	1	2	1	—	—	19	23	42		
Accidental Drowning	—	—	—	1	—	2	7	4	5	1	2	2	3	5	2	—	25	9	34		
Injury—																					
By Firearms	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
By Cutting or Piercing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
By Fall	—	—	1	1	—	—	1	—	—	2	8	8	9	17	14	7	37	31	68		
In Mines and Quarries	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9	—	9		
By Machines	—	—	—	—	—	—	—	2	1	2	2	1	1	—	—	—	60	26	86		
By Other Crushing	—	—	—	2	4	9	11	2	5	11	6	9	10	14	3	—	1	—	1		
By Animals	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—		
Starvation	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Excessive Cold	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Effects of Heat	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	1	—	1		
Lightning	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Electricity	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Homicide by Firearms	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	—	1		
Homicide by Cutting or Piercing	—	—	—	1	—	—	—	—	—	2	—	—	—	—	—	—	2	1	3		
Homicide by other means	—	4	3	—	1	—	—	—	—	—	—	—	—	—	—	—	6	2	8		
Fractures (cause not specified)	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	2	2	2		
Other Violence	—	—	—	—	—	—	—	—	—	2	1	—	1	2	—	—	5	1	6		
XIV.—ILL-DEFINED CAUSES.																					
Dropsy	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	1	1	1	2		
Syncope (1 year and under 70)	—	—	—	—	—	—	—	1	—	1	1	—	1	1	—	—	4	1	5		
Sudden Death (not defined)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Heart Failure (1 and under 70)	1	—	—	—	—	—	—	2	—	3	6	12	25	15	—	—	39	25	64		
Other ill-defined causes	1	2	1	—	—	—	—	—	—	—	1	1	3	—	—	—	6	3	9		
Cause not specified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Totals	... 1630	464	266	151	127	328	198	229	258	784	987	1322	1583	1905	1424	344	6110	5890	12000		

TABLE III. Births and Deaths Registered in, or belonging to, each Ward during the Year ending January 3rd, 1920.

Causes of Death	No. of Deaths												No. of Births
	1	2	3	4	5	6	7	8	9	10	11	12	
Enteric Fever	...	...	...	...	...	...	...	...	...	...	...	...	...
German Measles	...	1	14	25	1	6	16	7	3	1	1	1	9
Measles	...	1	2	1	1	4	3	4	2	1	1	1	189
Scarlet Fever	...	...	2	1	1	2	3	1	1	1	1	1	45
Whooping Cough	...	1	1	4	3	3	3	1	1	1	1	1	60
Diphtheria, Croup	...	1	21	7	58	51	11	10	26	14	43	17	126
Influenza	...	31	86	57	63	1	1	1	19	29	21	24	1062
Erysipelas	...	...	...	...	...	...	...	...	...	...	...	...	10
Pulmonary Tuberculosis	24	39	42	49	51	28	21	19	29	7	19	17	1019
Tuberculous Meningitis	5	5	4	1	3	3	1	1	1	1	1	1	68
Abdominal Tuberculosis	...	2	1	1	6	1	2	1	1	1	1	1	46
Other Tuberculous Dis.	...	1	2	34	45	14	23	27	19	29	31	35	55
Cancer	...	35	36	53	3	1	1	1	1	1	1	1	335
Rheumatic Fever	...	1	2	3	7	6	1	1	4	3	1	1	34
Diabetes	...	1	2	3	7	6	1	1	4	3	1	1	81
Encephalitis Lethargica	...	...	...	...	...	...	...	...	...	...	...	...	4
Cerebro-Spinal Fever	...	6	6	2	12	2	1	1	3	1	1	1	8
Meningitis (other forms)	...	6	6	2	12	2	1	1	3	1	1	1	73
Acute Poliomyelitis	...	...	...	...	...	...	...	...	...	...	...	...	2
Cerebral Hemorrhage	...	11	22	21	25	19	26	15	4	28	9	11	473
Convulsions	...	1	5	5	7	8	1	1	3	4	1	1	97
Organic Dis. of Heart	...	28	48	63	54	35	52	22	21	44	16	24	18
Arterio-Sclerotic	...	7	9	9	8	5	6	4	7	3	16	6	187
Cerebral Embolism, Thromb.	3	3	2	6	3	6	1	2	5	2	5	2	3
Bronchitis	...	17	50	74	60	98	40	16	21	25	15	13	98
Pneumonia	...	21	51	60	29	73	48	15	18	13	6	57	125
Other Respiratory Dis.	5	7	9	8	18	6	3	5	2	6	12	5	10
Diarrhea & Enteritis:	Under 2 years	3	16	11	8	7	6	...	1	3	2	1	191
	Two years and over	3	5	2	1	3	3	3	...	2	1	1	69
	Appendicitis, Typhlitis	2	1	1	1	1	1	1	1	2	1	1	57
	Chirrosis of Liver	1	3	1	1	1	1	1	1	2	1	1	27
	Alcoholism	...	...	...	...	...	...	...	...	...	...	...	28
	Nephritis & Bright's Dis.	14	7	10	19	3	8	5	4	9	2	1	23
	Puerperal Fever	...	1	1	4	...	2	1	1	2	1	1	23
	Other Acc. & Dis. of Pregnancy & Parturition	...	2	1	...	2	...	...	1	2	1	1	23
	Congenital Deficiency and Malformation, Prema-	...	25	61	54	56	60	54	21	26	27	32	125
	ture Birth	...	13	36	35	19	59	11	8	15	13	10	125
	Old Age	...	19	19	16	37	24	25	18	5	15	10	125
	Accidents or Negligence	6	21	14	9	23	8	6	10	5	10	7	128
	Suicides	...	3	3	8	5	2	5	3	4	3	2	8
	Other Causes	...	25	61	54	56	60	54	21	26	27	32	125
Total Deaths	277	562	577	557	683	462	196	204	319	188	206	504	178
Deaths under 1 year	25	302	104	97	50	133	33	12	29	25	23	83	120
Births	...	532	1047	1057	777	1272	512	306	334	834	254	233	578

TABLE IV

Deaths under 1 year Registered in, or belonging to, each Ward during the Year ending January 3rd, 1920.

CAUSES OF DEATH.	ALL CAUSES	ALL Sanc'ts.	Acccks. Green.	Talsall Heath.	Doddle Hill and Newheles.	Bridgbaston.	Bridgerton (North).	Bridgerton (South).	Hanworth.	Hartforne.	Ladyswood.	Lozells.	Market Hall.	Moseley and Kynge's Heath.	Northfield.	Rotter Park.	Se. Marth's.	Se. Mary's.	Se. Paul's.	Sandwell.	Small Heath.	Sparkehill.	Washwood Heath.	Whetley.	Worlsey.	Yarbury.	ALL CAUSES
Measles ...	3	2	6	...	...	...	...	...	...	1	...	...	...	...	...	1	1	1	1	...	...	...	...	...	31	1
Scarlet Fever ...	...	...	3	...	4	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	19
Whooping Cough	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	1	1	1	1	...	...	...	...	...	5
Diphtheria, Croup	...	...	1	...	1	...	...	...	...	1	...	...	...	...	...	...	1	1	1	1	...	...	...	...	...	6
Influenza ...	2	4	6	2	3	...	...	...	...	1	1	2	1	1	1	1	1	1	1	2	1	1	1	1	1	7
Tuberculous Meningitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	36
Abdominal Tuberculosis	...	...	...	...	2	...	...	...	...	1	...	...	...	...	...	...	1	1	1	1	...	...	...	...	...	7
Other Tuberulous Diseases	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	5
Rickets ...	...	1	3	1	1	2	...	...	...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Syphilis ...	...	1	2	1	1	2	...	...	...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cerebro-Spinal Fever, Meningitis (not Tuberous)	...	...	11	11	5	10	11	5	11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	78
Bronchitis ...	3	6	10	5	11	20	12	10	11	2	3	2	12	9	8	2	5	15	14	6	7	1	1	1	1	130	
Pneumonia (all forms)	1	11	11	11	11	20	12	10	11	1	1	1	1	1	1	1	1	10	17	16	9	2	2	1	1	209	
Gastritis ...	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	19	
Diarrhea, Enteritis, etc.	2	15	11	7	4	5	...	1	3	1	1	2	9	2	3	1	2	15	16	11	12	13	2	3	1	5	
Congenital Malformations ...	1	4	4	4	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	55	
Premature Birth ...	5	20	19	12	29	8	6	10	7	4	10	24	20	19	6	...	22	20	17	23	5	7	21	14	21	18	
Atrophy, Debility, and Malnutrition ...	7	12	12	6	25	2	2	4	2	3	6	14	3	9	4	1	7	12	16	13	3	7	3	1	1	208	
Atelectasis ...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	12	
Injury at Birth ...	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	
Neglect (under three months) ...	2	1	1	1	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	33	
Suffocation (Overdressing) ...	2	1	1	6	3	6	3	...	2	1	1	1	1	1	1	1	2	1	2	3	2	3	1	1	3	49	
Other causes ...	...	25	92	97	50	133	33	12	29	28	20	23	83	52	49	18	7	90	119	120	99	94	36	21	4	44

TABLE V.

Cases of Infectious Disease notified during each week of the year 1919.

WEEK.	Number.	Ending.	Enteric Fever.	Continued Fever.	Malaria.	Trench Fever.	Syphilis.	Measles.	German Measles.	Scarlet Fever.	Diphtheria.	Dysentery.	Erysipelas.	Pulmonary Tuberculosis.	Other Tuberculosis.	Encephalitis Lethargica.	Cerebro-Spinal Fever.	Polyneuritis.	Pneumonia.	Puerperal Fever.	Ophthalmia Neonatorum.	Total.	
		1919.																					
1	Jan.	4	—	—	—	—	—	—	107	—	—	—	—	6	37	9	—	—	—	—	6	203	
2	"	11	—	—	—	—	—	—	99	—	11	16	—	5	36	6	6	—	—	4	5	184	
3	"	18	1	—	—	—	—	—	95	3	23	12	—	4	58	5	—	2	—	2	4	210	
4	"	25	—	—	—	—	—	—	80	—	14	12	—	8	50	7	7	2	—	4	4	174	
5	Feb.	1	1	—	—	—	—	—	119	—	10	10	—	4	34	—	—	—	—	—	—	193	
6	"	8	—	—	—	—	—	—	95	2	15	11	—	7	59	3	—	2	—	1	2	197	
7	"	15	—	—	—	—	—	—	202	5	16	10	—	6	49	6	—	—	—	—	2	1	297
8	"	22	1	—	—	—	—	—	233	1	16	12	—	5	40	5	—	—	—	—	2	6	321
9	March	1	1	—	—	—	—	—	334	1	9	9	—	6	58	11	—	—	—	—	7	436	
10	"	8	—	—	—	—	—	—	338	5	15	6	1	3	45	8	—	—	—	—	4	696	
11	"	15	1	—	—	—	—	—	447	2	12	13	5	4	34	6	1	—	—	302	2	829	
12	"	22	—	—	—	—	—	—	459	11	15	15	1	7	35	7	—	1	—	237	2	796	
13	"	29	1	—	—	—	—	—	483	9	6	8	—	10	53	3	—	—	—	125	1	706	
14	April	5	1	—	—	—	—	—	567	5	9	16	—	5	67	4	—	1	—	96	4	775	
15	"	12	—	—	—	—	—	—	533	20	17	17	—	3	50	4	—	1	87	4	7	749	
16	"	19	—	—	—	—	—	—	440	17	8	12	1	3	45	4	—	—	30	1	2	567	
17	"	26	—	—	—	—	—	—	520	13	15	10	1	5	43	1	—	2	1	34	2	651	
18	May	3	—	—	—	—	—	—	729	10	17	8	—	5	61	3	—	—	—	—	5	871	
19	"	10	—	—	—	—	—	—	880	17	17	13	1	5	57	4	—	—	—	17	2	1024	
20	"	17	1	—	—	—	—	—	746	17	14	16	1	5	53	5	—	1	—	22	4	900	
21	"	24	1	—	—	—	—	—	609	15	9	11	—	4	48	6	—	—	—	9	1	729	
22	"	31	—	—	—	—	—	—	738	22	11	18	—	3	69	8	—	—	—	25	1	912	
23	June	7	1	—	—	—	—	—	711	12	20	15	—	2	70	8	—	1	—	27	1	6	883
24	"	14	—	—	—	—	—	—	467	26	22	13	—	8	35	4	—	—	1	19	2	600	
25	"	21	—	—	—	—	—	—	577	5	15	11	—	4	49	3	—	—	—	24	1	707	
26	"	28	1	—	—	—	—	—	658	12	14	23	—	5	54	3	—	—	—	11	3	797	
27	July	5	—	—	—	—	—	—	388	9	31	13	—	2	50	3	—	—	—	13	1	526	
28	"	12	—	—	—	—	—	—	267	15	36	16	—	4	49	4	—	—	—	13	1	426	
29	"	19	1	—	—	—	—	—	289	9	41	18	—	7	45	7	—	—	—	10	4	446	
30	"	26	1	—	—	—	—	—	244	7	28	11	1	6	66	3	—	—	—	24	3	6414	
31	August	2	1	—	—	—	—	—	331	15	41	15	—	4	50	6	—	—	—	5	3	499	
32	"	9	—	—	—	—	—	—	233	19	24	12	—	5	35	3	—	—	—	9	2	366	
33	"	16	2	—	—	—	—	—	231	9	23	13	3	6	57	3	—	—	—	7	4	387	
34	"	23	1	—	—	—	—	—	125	10	23	25	2	5	44	3	—	—	—	5	4	285	
35	"	30	2	—	—	—	—	—	83	7	14	10	1	5	47	10	1	1	—	6	1	210	
36	Sept.	6	1	—	—	—	—	—	68	2	30	16	1	9	63	12	—	—	—	11	2	847	
37	"	13	1	—	—	—	—	—	58	6	42	32	2	12	58	—	—	—	—	3	5	250	
38	"	20	1	—	—	—	—	—	61	7	51	33	—	8	54	1	1	—	2	5	5	248	
39	"	27	—	—	—	—	—	—	39	7	62	32	2	7	45	10	—	—	—	10	4	426	
40	Oct.	4	1	—	—	—	—	—	63	6	83	33	—	12	39	5	—	—	—	12	2	273	
41	"	11	—	—	—	—	—	—	62	9	132	30	2	8	52	18	—	—	—	10	1	340	
42	"	18	1	—	—	—	—	—	112	12	140	29	—	9	48	24	—	—	—	21	2	408	
43	"	25	1	—	—	—	—	—	123	10	158	25	—	8	55	4	—	—	—	23	3	423	
44	Nov.	1	—	—	—	—	—	—	120	21	157	31	—	11	46	36	—	—	—	17	2	458	
45	"	8	—	—	—	—	—	—	154	14	121	27	1	11	68	13	—	2	1	21	2	452	
46	"	15	1	—	—	—	—	—	151	16	180	28	3	11	57	11	—	2	16	3	10	504	
47	"	22	—	—	—	—	—	—	150	10	145	37	5	9	65	13	—	1	—	13	2	432	
48	"	29	—	—	—	—	—	—	135	18	174	18	1	15	65	16	—	—	—	17	1	509	
49	Dec.	6	1	—	—	—	—	—	141	20	189	30	2	11	61	4	—	—	—	14	1	495	
50	"	13	—	1	4	—	—	—	120	21	143	36	—	5	54	13	—	—	—	19	3	429	
51	"	20	—	—	8	—	—	—	75	21	142	28	1	12	44	28	1	—	—	25	2	394	
52	"	27	—	—	2	—	—	—	31	14	99	21	—	6	31	4	2	1	—	8	4	227	
53	J. r. (t ^o 20)	3	2	—	6	—	—	—	68	14	149	27	—	14	57	16	1	—	—	41	1	8	395
	Total ...	34	1	464	3	—	15158	565	2821970	38	351	2704	412	11	14	14	14	14	14	1739	105	282	25686

TABLE VI.
Cases of Infectious Disease notified during the Year 1919. Classified according to ages.

DISEASE.	AGES.										S ₁ S ₂ S ₃	
	0-	1-	2-	3-	4-	5-	10-	15-	20-	25-		
Enteric Fever	1	...	...	5	5	3	2	1	34
Continued Fever	1	...	...	...	...	...	...	...	1
Malaria	19	1	1	464
Trench Fever	1	1	...	...	3
Smallpox	15158
Measles	565
German Measles	1096	1327	1467	1672	8292	512	116	66	2821
Scarlet Fever	17	24	32	31	296	73	16	20	970
Diphtheria	58	96	180	206	1386	586	147	74	38
Dysentery	10	27	60	63	72	386	161	61	351
Erysipelas	7	1	3	3	3	12	14	19	2704
Pulmonary Tuberculosis	4	2	14	9	20	245	244	182	31
Tuberculosis of Meningitis	4	3	5	3	4	7	1	2	...
Tuberculosis of Peritoneum and Intestines	6	5	8	1	3	18	9	3	...
Tuberculosis of Spinal Column	1	...	1	...	1	3	...
Tuberculosis of Joints	1	1	2	3	1	1	...
Tuberculosis of Other Organs	2	7	13	8	104	69	35	14	...
Disseminated Tuberculosis	3	2	2	2	...	6	3	2	...
Encephalitis Lethargica	1	4	2	...
Cerebro-Spinal Fever	4	2	1	2	...	1	2	1	...
Poliomyelitis	43	69	65	59	46	160	67	102	...
Puerperal Fever	27	50	178
Ophthalmia Neonatorum	282	...	...	...	...	...	27	1	105
Total	876	1284	1618	1834	2067	10924	1751	702	801	1638	1168	283
												25686

TABLE VII.
Cases of Infectious Disease notified during the Year 1919.
Classified according to Waras.

TABLE VIII.

*Temperature of the Air and Ground, Rainfall, Sunshine, and Wind, in each Month of the Year 1919
Observed at the Birmingham and Midland Institute Observatory, Edgbaston,
by Mr. A. J. Kelley.*

MONTH.	TEMPERATURE OF THE AIR.			TEMPERATURE OF THE GROUND.			HOURS OF SUNSHINE.			RAINFALL IN INCHES.			DAYS ON WHICH 0·01 INCH OR MORE OF RAIN FELL.			MILES OF WIND.		
	Highest in the shade. 1919	Lowest in the shade. 1919.	Mean for the Month. 1919.	Maximum at 1 foot deep.	Maximum at 4 feet deep.	1919.	Above or below the average.	Above or below the average.	1919.	Above or below the average.	1919.	Above or below the average.	Above or below the average.	Above or below the average.	1919.	Above or below the average.	1919.	
JAN.	50·7	- 7·3	27·1	+ 16·3	36·4	- 1·4	43·0	45·0	39	+ 6	3·45	+ 1·53	23	9250	- 1064			
FEB.	47·7	- 14·2	16·8	+ 8·8	34·1	- 4·7	40·6	43·5	33	- 14	2·91	+ 1·27	11	6611	- 2975			
MAR.	54·9	- 15·0	26·5	- 7·5	37·7	- 3·3	42·0	42·4	77	+ 2	3·99	+ 2·06	20	10767	+ 233	87		
APR.	64·0	- 15·0	29·6	+ 13·7	44·8	- 0·8	46·0	43·7	97	- 32	1·76	+ 0·22	15	9984	+ 437			
MAY	75·9	- 6·3	37·9	+ 6·9	56·6	+ 4·8	56·8	49·0	219	+ 59	0·93	- 1·21	8	7984	- 854			
JUNE	81·0	- 1·9	42·0	+ 4·4	57·7	+ 0·5	61·5	52·0	168	+ 14	1·31	- 0·85	12	9765	+ 1497			
JULY	75·0	- 13·5	45·1	+ 5·6	57·2	- 2·0	57·9	52·0	88	- 74	3·11	+ 0·82	13	8471	+ 192			
AUG.	82·6	- 11·3	41·7	+ 0·5	61·1	+ 1·6	62·8	55·0	183	+ 32	2·42	- 0·42	11	8297	- 205			
SEPT.	82·7	- 7·9	32·5	- 0·5	55·0	- 0·6	58·6	54·0	135	+ 25	2·91	+ 0·39	15	8493	+ 446			
OCT.	65·2	- 11·3	32·9	+ 5·0	45·8	- 2·8	49·8	52·0	129	+ 59	2·87	0·17	11	8887	- 125			
NOV.	56·0	- 5·6	24·6	+ 4·6	37·4	- 5·2	44·8	48·7	33	- 13	1·77	0·18	20	8767	- 578			
DEC.	53·1	- 3·7	30·9	+ 16·5	41·6	+ 2·5	43·8	45·2	25	+ 5	3·91	+ 1·20	23	11890	+ 1327			

* In the thirty-two years 1887-1918.

TABLE IX.

Meteorology and Mortality in each week of the year 1919.

No.	WEEK. Ending, 1919.	DEATHS FROM										TEMPERATURE						of the Air.		of Ground			
		Total Deaths,			Deaths under 1 year,			Measles, Whooping Cough,				Diarrhoea and Enteritis under 2 years,		Pulmonary Tuberculosis,		Other Forms of Tuberculosis,		Respiratory Diseases,		of the Air.		of Ground	
		Deaths 65 and up.	Measles,	Whooping Cough,	Deaths under 1 year,	Deaths 65 and up.	Measles,	Whooping Cough,	Deaths under 1 year,	Deaths 65 and up.	Diarrhoea and Enteritis under 2 years,	Pulmonary Tuberculosis,	Other Forms of Tuberculosis,	Respiratory Diseases,	Highest in Shade.	Lowest in Shade.	Mean of daily Maximum and Minimum	Highest 4 Feet Deep.	Horizontal Move- ment of Air in Miles	Hours of Sunshine.	Rainfall in Inches.		
1	Jan. 4	224	39	70	4	—	1	—	5	19	5	45	45	45	58	28	40·7	?	2,749	10·0	1·46		
2	" 11	237	27	86	4	—	—	2	5	18	1	56	45	51	31	37·5	?	2,505	11·9	0·46			
3	" 18	219	34	69	—	—	—	1	23	4	4	51	51	31	39·3	45·0	1,944	7·1	0·96				
4	" 25	206	34	84	2	—	—	1	24	3	3	37	46	43	27	34·9	44·8	1,644	7·6	0·57			
5	Feb. 1	229	34	65	—	—	—	2	21	1	51	43	27	32·4	44·2	1,774	4·1	0·24					
6	" 8	278	44	87	2	3	2	2	21	5	91	37	21	31·2	43·4	1,551	11·5	0·38					
7	" 15	340	39	131	—	—	—	1	35	3	116	42	17	30·8	42·8	1,236	16·9	0·19					
8	" 22	500	64	175	8	2	1	25	3	176	48	28	38·3	42·2	2,258	2·0	2·43						
9	Mar. 1	540	65	150	4	—	2	19	3	168	45	31	37·2	41·8	1,633	3·6	0·04						
10	" 8	478	41	121	6	1	2	35	3	136	55	32	40·1	41·9	2,176	9·1	0·69						
11	" 15	51	52	137	14	1	2	23	4	139	53	31	40·9	42·4	2,211	15·2	1·23						
12	" 22	444	41	117	7	—	3	33	8	103	45	29	35·6	42·3	2,434	10·1	1·71						
13	" 29	394	40	119	8	1	3	23	5	90	45	28	34·9	42·0	2,951	32·2	0·31						
14	April 5	321	37	111	11	—	3	19	2	81	53	27	39·9	41·2	1,695	21·8	0·11						
15	" 12	274	28	103	12	3	2	20	3	71	57	35	47·7	42·2	2,100	19·4	0·25						
16	" 19	220	27	63	8	2	3	19	1	51	64	36	47·4	43·0	2,765	20·8	0·67						
17	" 26	236	23	87	10	1	2	28	1	42	61	33	43·9	43·7	2,383	29·4	0·28						
18	May 3	231	31	61	8	1	2	21	3	53	56	30	43·0	43·7	2,783	20·1	0·76						
19	" 10	173	23	51	4	3	1	19	1	27	67	41	52·9	44·4	1,906	27·1	0·53						
20	" 17	181	16	61	6	—	2	21	3	28	74	47	59·8	45·9	1,824	51·4	0·04						
21	" 24	154	21	47	8	1	2	20	5	21	77	41	57·6	47·4	1,853	63·4	1·07						
22	" 31	165	23	49	1	2	2	21	5	21	76	44	59·5	49·0	1,315	69·5	0·06						
23	June 7	157	18	49	4	3	2	17	6	22	78	44	60·6	50·0	1,859	30·4	0·15						
24	" 14	147	17	47	8	1	2	16	2	19	81	46	60·1	51·3	2,390	67·5	0·34						
25	" 21	148	12	37	3	—	4	20	1	20	73	46	58·7	51·9	1,820	49·3	0·22						
26	" 28	170	15	45	4	2	4	19	2	22	65	42	53·6	52·0	2,660	18·5	0·32						
27	July 5	164	22	59	3	1	1	12	2	18	64	45	52·6	51·5	2,519	3·7	1·08						
28	" 12	160	18	42	2	—	4	24	2	21	73	47	57·7	51·0	1,817	28·4	0·26						
29	" 19	134	16	50	3	—	1	14	3	18	72	47	59·8	51·8	1,924	22·4	1·64						
30	" 26	143	24	45	3	1	1	5	3	24	72	48	56·9	52·0	2,236	18·5	0·40						
31	Aug. 2	149	21	40	2	—	1	10	7	21	75	46	59·1	52·0	1,703	25·6	0·00						
32	" 9	146	24	41	—	—	1	22	2	15	82	51	62·1	53·0	1,837	46·9	0·08						
33	" 16	165	27	50	1	—	5	12	4	21	83	52	67·4	54·1	1,664	64·5	0·11						
34	" 23	135	18	47	3	—	3	11	2	20	75	50	61·2	55·0	1,783	31·0	0·79						
35	" 30	161	32	34	1	—	9	21	1	18	66	42	54·6	54·8	2,107	24·5	1·42						
36	Sept. 6	168	27	49	2	—	11	21	2	20	70	42	57·9	54·0	1,862	17·7	0·95						
37	" 13	148	26	41	—	1	10	5	4	14	83	47	61·1	53·9	1,741	45·4	0·19						
38	" 20	149	32	36	—	—	12	13	3	10	69	33	52·3	54·0	1,931	25·9	0·61						
39	" 27	171	28	41	2	—	14	18	5	11	67	40	51·8	53·2	2,464	31·4	0·44						
40	Oct. 4	148	25	38	—	1	6	17	1	21	65	35	48·6	52·3	1,627	42·9	0·20						
41	" 11	177	32	53	1	—	5	13	3	30	65	34	48·1	51·6	1,541	38·4	0·01						
42	" 18	177	33	49	—	1	7	23	3	23	57	34	43·4	51·1	2,055	28·8	0·39						
43	" 25	203	25	74	3	2	1	16	3	32	62	39	48·4	50·0	1,743	22·9	1·78						
44	Nov. 1	196	28	67	1	—	2	18	3	34	48	33	39·9	49·4	2,936	17·6	0·52						
45	" 8	199	26	71	1	—	5	10	2	40	43	32	37·9	48·5	1,666	3·4	0·36						
46	" 15	238	28	89	2	1	4	22	3	48	39	25	32·2	47·4	1,930	3·6	0·05						
47	" 22	212	32	71	4	3	4	14	8	42	52	26	40·5	46·3	2,500	10·7	0·86						
48	" 29	216	51	63	4	5	3	18	5	40	56	28	39·5	45·7	2,039	14·6	0·37						
49	Dec. 6	214	45	54	2	2	4	19	4	36	53	27	41·6	45·4	2,777	7·1	1·01						
50	" 13	227	37	55	—	3	6	31	2	40	46	31	38·8	45·0	2,616	6·3	0·25						
51	" 20	202	40	64	1	3	—	12	5	38	52	32	42·1	45·0	2,484	4·5	0·59						
52	" 27	188	25	65	—	1	6	19	1	33	52	32	41·7	45·0	2,858	7·4	1·43						
53	Jan. 3	229	43	63	2	5	3	20	3	46	51	29	39·1	44·8	2,481	2·0	0·82						

